United Nations
Research Institute
for Social
Development

Measurement and Analysis of Progress at the Local Level

VOLUME II

COUNTRY CASE STUDIES IN GHANA, INDIA AND POLAND

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Kodwo Ewusi
B. Gruchman
Z. Krasinski
N. T. Mathew

GENEVA - 1978

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PREFACE

The report on the "Measurement and Analysis of Progress at the Local Level" project will consist of three volumes. Volume I, already issued, contains the Overview. The present Volume includes four country case studies that were available in summary form at the end of February 1978, namely two separate studies from Ghana, one from India, another from Poland. Volume III will contain the remaining papers when they become available.

The country case studies in this volume vary in objective and content. Thus, the studies by Ewusi in Ghana and by Mathew in India address themselves to the following issues in a country context:

(a) clarification of certain concepts, such as 'progress';

(b) evaluation of the present means of data supply and its adequacy in the light of national data needs;

(c) assessment of organization and structural needs for the collection of data at the local level with attention to the institutional and practical implications of a Development Monitoring Service;

(d) exploration of new kinds of data and indicators that would be more relevant in specific conditions.

The second study in Ghana, by Jette Bukh, combined both narrower and broader objectives. It sought to enquire in the first place whether the indicators proposed for the three villages in the principal study in Ghana were applicable as well to a small rural town, and to propose suitable modifications. It sought also to determine what kinds of background variables were needed to supplement and enrich the levels of living indicators so as to explain the absence of significant progress in the town surveyed.

The Polish study concludes that while statistics for small areas in Poland are ample, conventional indicators are becoming less sensitive with increasing affluence and may no longer adequately record progress. The study explores the possibility of new 'qualitative' indicators and sources of relevant data. A 'panel' of 12,000 households is being systematically surveyed in relation to changes in the quality of life. It is proposed that the information from this panel be supplemented with data derived from a small number of investigation stations to be set up at the local level during 1978.

The Institute is grateful to the researchers who contributed to this Volume. The present Volume was prepared and edited by Wolf Scott who has directed UNRISD's project on "Measurement of Real Progress at the Local Level" and who was the author of Volume I of this series- *Measurement and Analysis of Progress at the Local Level - An Overview*.

Solon L. Barraclough
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Report on the Country Case Study in Ghana

by

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SECTION 1

INTRODUCTION: BACKGROUND AND OBJECTIVES

Ghana has a long history of planning. The Guggisberg 1919-29 Ten-Year Development Plan is reputed to have been the first comprehensive development plan ever to be formulated. 1/ The first African government, which came into power in 1951, not only inherited the legacy of planning but actually adopted the last plan of the colonial government as its first plan, after making considerable additions. Since the implementation of the Five-Year Development Plan of 1951-56, the Government has in one way or another further experimented with planning. 2/ Yet after decades of macro-planning, it appears that it may have contributed less to improving the living conditions of the masses of people whose lives the plans were supposed to affect than had been hoped.

The problem of economic and social development in Ghana is basically the problem of eradicating rural poverty. This problem is linked to the paradoxical situation where the people in the rural sector produce the bulk of the country's wealth, i.e. its export products, supply the country's raw materials, manpower and food requirements etc. and yet live and experience the most disheartening standards of living in the country.

A situation has been created whereby the wealth of the rural sector is siphoned off to develop the urban centres. This is explained by the fact that the set-up of political

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1/ There were early examples of plans for single sectors. Thus the Belgian Government drew up a programme for the development of railways in the Belgian Congo for 1910-20, but this cannot be called a development plan.

2/ See Kodwo Ewusi, *Economic Development Planning in Ghana*, New York, 1973, for the history of planning in Ghana.

and governmental institutions tends to work to serve the interests of the few, who possess in greater abundance, wealth, status, education and consequently authority or power. The consequences are convergent and cumulative, making for perpetuation of low productivity and low incomes for the large majority of the people in the rural areas. Government allocations under various guises transfer income from the poor to the rich rather than vice versa in spite of active state intervention in the economy since the 1960s intended to help the poor. Quite apart from benign neglect on the part of the Government, the effort that has been made in the past seems to have been based on ineffective strategies such as a project oriented development approach. One main problem is that there does not exist systematic information to evaluate the impact of various projects on the lives of the rural masses. Thus it has been observed elsewhere that certain local problems can be analyzed only in terms of information "geared to the specific requirements of ... localities". 1/ Aware of the general dissatisfaction with the kind of information that is generally available to national planners and decision-makers on progress in actual levels of living of the masses of the population in developing countries, the United Nations Research Institute for Social Development (UNRISD) initiated a programme of comparative international studies aimed at establishing methods of measuring real progress at the local level in the various countries systematically. It is to this major effort of international collaborative research that the present study belongs.

At a Workshop in Geneva organized by UNRISD for representatives of research institutes from developing and developed countries, in December 1973, the major objectives of the study were fully stated and may be quoted here ab extensio.

1/ Wayne State University, Center for Urban Studies, *Social Reporting in Michigan: Problems and Issues*, quoted in Wolf Scott et al., *Measurement of Real Progress at the Local Level: Examples from the Literature and a Pilot Study*, UNRISD Report No. 73.3, Geneva 1973.

"The purpose of this project is to try to build up an approach to development indicators ... that will provide a basis for a better picture of social progress in a country than is given by present methods, and a basis for a better understanding of the dynamics of development ... The hypothesis is that by systematic examination of real progress at the local level ... not only can certain aspects of change, particularly social aspects, be better assessed but also the nature of change, including the interrelations between economic and social factors, can be better observed." 1/

Our present study was conceived as a pilot study, parallel to pilot studies in some other developing countries and in Poland, with four objectives in view. First of all, it was intended to examine the need for data particularly at the local level and in the light of present planning institutions. Secondly, present relevant sources of data were to be explored. Thirdly, the study was intended to identify meaningful and feasible indicators to measure and monitor development at the local level; and fourthly, methodological and institutional problems that may be encountered in an attempt to set up a Development Monitoring Service, including the use of local socioeconomic observatories, were to be examined.

The pilot study therefore is mainly methodological. While three villages were surveyed, the primary purpose of the survey was not to collect data, but rather to explore methodological problems. The organization of this paper is

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1/ Scott et al., op. cit. p. 56.

that followed in the pilot study. 1/ In Section 2, the process of planning in Ghana and the presently existing sources of data are described. Section 3 contains a brief summary of the main conclusions of the survey of three villages. Section 4, finally, contains proposals for a Development Monitoring Service, including a tentative list of indicators for use in monitoring progress at the local level.

1/ At the initial stages of the study, the principal investigator sought the views of administrators, planners and researchers on the desirability of identifying indicators needed for planning and for monitoring development at the local level. During interviews with individual officers, it became apparent that a workshop would provide a forum for a useful exchange of ideas on progress at the local level. A workshop, held in Accra in 1974 and attended by delegates from the universities, regional planning units and the Departments of Social Welfare and Rural Development, helped to define the main concepts to be used in the research.

SECTION 2

DATA NEEDS FOR PLANNING

The gap between the data needs of planners and existing relevant sources of data is examined below following a brief description of the present multi-level planning system in the rural areas. Criteria for the selection of development projects will be considered and the types of information the planners need indicated. Finally, existing sources of information are examined to ascertain whether they adequately meet the needs of planners.

The process of planning for rural development projects

Ghana at present comprises nine regions which are further sub-divided into 62 districts. Each district has several local councils catering for the needs of towns and villages under its jurisdiction. At the micro-level, village and town development committees have been formed by citizens (either resident in the same locality or in Accra) to provide essential services for their village. Notwithstanding the various levels of disaggregation, planning for rural development in Ghana is highly centralized. The district local councils have been mainly responsible for the maintenance of law and order, settlement of chieftaincy disputes, collection of some revenues and the implementation and maintenance of government projects. They have had negligible effect on planning and selection of projects by the central Government to be implemented within their districts or local council area.

However, since the local council collect some revenues, those councils whose revenues exceed targets prescribed by the Government are able to execute additional projects according to their own felt needs.

Indeed some councils have been able to impose development levies on their citizens for the implementation of such projects. In such instances the local councils follow the project implementation approach. After lengthy discussion,

they decide on a specific project, they then impose a levy of about two cedis per male and one cedi per female citzen. There is no coordinated planning, but rather a specific project implementation approach. Since their financial resources are limited, the committees often choose projects which they can implement mainly through communal labour with perhaps some technical assistance from a government department.

In 1967, Regional Planning Committees were established in the nine administrative regions of the country as part of the overall machinery for development planning in the country. Until this time, the machinery for planning in the country was centralized in Accra. Thus plan preparation, including preparation of annual budgets/estimates was the sole responsibility of the various ministries in Accra and the Central Planning Agency. Hitherto, regional administrative machineries existed as integral wings of the central government administrative organs, but these regional administrative machineries of the Government never had any real responsibility for the development planning of the regions. Their functions embraced the maintenance of law and order as well as chieftaincy matters. The development planning work, if it can be so described, of the regional administrations was limited to the annual budgeting for the construction of office and residential accommodation both at the regional and district capitals. But since 1967, planning machinery in the country comprises the Ministry of Economic Planning in Accra, the Regional Planning Committees in the regions and the ministries in Accra with branches in the regions.

Planning at the regional level is still carried out on a sectoral basis, i.e. the regional branches of the different ministries formulate their own development plans. This is however strongly related to planning objectives of the parent (national) ministry in Accra where the decisions on allocation of funds to the different regions are taken. The regional branches of the ministries select the actual sites and locations for the projects subject to approval from the parent ministry. The Regional Planning Committees act as coordinating bodies for all projects implemented in their regions.

In the Central Region, for example, the Secretary to the Regional Planning Committee requests the development proposals/programmes of each ministry and discusses the proposals with each ministry to ensure effective coordination of the various programmes of the ministries, to ensure that the proposals conform to the regional aspirations and also that they fall within government development policies. After the preliminary discussion with the various departments on their estimates, the Secretary calls a meeting of the Regional Planning Committee where a sort of 'mini-budget hearing' is done with all the heads of departments under the chairmanship of the Regional Commissioner. All the District Chief Executives in the region are invited to this meeting. At the meeting, the proposals for all the departments are carefully examined and in some cases new proposals are added to the proposed ones while some of the proposed ones are rejected for various reasons. After the meeting, the Regional Planning Secretariat makes copies of the proposals which the Committee has agreed on and submits them to the Director of Economic Planning in Accra. In the meantime, the regional offices of each sectoral ministry are expected to send their proposals (agreed by the Regional Planning Committee) to their head offices in Accra to be incorporated with those of the other regions. Thus the Regional Planning Committees influence the annual budgeting procedures by reviewing the programmes of the sectors at the regional level before the first review takes place in Accra.

The facts remain, however, that the final choice of the project is made by the ministries in Accra, and secondly that the sectoral approach still prevails.

Moreover, once the regional programmes of the various ministries have been coordinated at the regional level, they are often reduced arbitrarily by the parent ministries in Accra, whenever the ministries fail to secure approval for sufficient funds. The weakness is apparent because in this exercise, neither the sectoral ministries nor the Regional Planning Committees are given guidelines as to the amount of resources that might be placed at their disposal. In practice, for financial guidelines, the various bodies are forced to rely on allocations received in previous years even

though circumstances may have changed. The selection of development projects at the regional level is therefore often limited by financial constraints, the extent of which is unknown at the time the regions are first consulted. Available finance limits the number of projects that can be undertaken and the type of projects to be undertaken. The accelerated rate of inflation in recent years in the cost of building materials imposes another severe limitation. Sometimes projects have been started which exceed their initial estimated costs. Thus they eventually absorb funds from other projects and upset the entire budget for the region. To avoid a wastage of already limited funds, the regional offices have made it a point to try and embark on development projects which have been deemed to be economically viable and feasible.

There is, nonetheless, an increasing tendency - if only in intention - towards decentralization in planning, through greater involvement of the regions, and districts within regions. There is a correspondingly greater need for disaggregated statistical data as a basis for consistent planning. The Government is giving serious consideration to the decentralization of the bureaucratic machinery. It has been suggested that District Chief Executive Officers, equal in rank to Principal Assistant Secretaries, be appointed to coordinate the administrative functions of the various government ministries at the district level. It has further been suggested that graduate or professional planners should be assigned to the district so that coordinated planning can be done at the district level. The implementation of these proposals would increase the need for more disaggregated data.

Planners have to be aware inter alia of the general socioeconomic conditions in the regions. Specifically they have to know demographic parameters such as population size and its distribution. They should be aware of the levels of adequacy of economic and social infrastructure (e.g. health, education, water, roads) in the various districts in their region and the distribution of such infrastructure in relation to specific problems such as incidence of diseases and natural disasters. Population size plays a vital role in the location of services like health, education and water

supply. The Government has come out with certain policies concerning population, e.g. only settlements of at least 2,500 population should be provided with pipe-borne water. This ensures that a large number of people in the area benefit from the projects. Planners should be aware of the resource endowments in the regions and be in a position to determine their economic feasibility. Above all, they should be aware of the general levels of development and the basic needs of the local people. Systematic information will be needed on health, nutrition, housing and associated facilities, education, transport, communications, production, employment, income, consumption, leisure, among others.

Information on these sectors is needed separately and in interrelation by all the institutions involved: the village development committees, the local district councils, the regional planning committees, the central planning agencies in Accra as well as the sectoral ministries and their regional offices. The details of the information needed depend to a large extent on their uses. Generally the planners will need disaggregated information of three main kinds. First of all they need basic background information about the population for whom they are planning. The data should describe the state of poverty and inadequacies in the services available to the people. Secondly, they should monitor general progress, as well as the effects of specific projects. To monitor general progress, the planners will need to know changes in the variables in respect of which data were initially collected to provide base-line information. Finally, the planners may need information on the interrelationships between given variables.

Increasingly, the local councils and the village development committees are coming to the realization that they have to formulate coherent medium-term plans rather than implement single projects on an ad hoc basis. This will further increase the demand for relevant information for planning.

Moreover, the recent surge in interest in integrated rural development has added to the demand for information including local data. United Nations agencies have shown keen interest in problems of the rural sector. Foreign

governments are entering into bilateral agreements with the Government of Ghana to select specific localities for the implementation of agricultural and allied projects intended to raise the living standards of the rural people. Non-governmental international agencies such as the YMCA, YWCA and the Catholic Relief Services are beginning to show interest in rural problems. Thus the potential uses of (and for that matter, the demand for) micro data have increased significantly.

The use of information at the local level is of course not confined to planners at the local level such as village or district councils and agencies operating specific geographically localized projects. Planners at the regional and national levels may not wish to know in every detail what goes on in a specific village or town, but they do want to know what development takes place or fails to take place at the local level in general, or in a representative sample of settlements in particular. They will also wish to know something about the processes associated with development or the failure of development, e.g. the impact of a particular institutional, legal, production or welfare measure.

While certain specific statistical series are proposed below for systematic monitoring of levels of living, these series will give only a general picture of progress or its absence in terms of the welfare of the individual. It will not meet all the potential users' needs for specific information in relation to particular processes. What is therefore proposed in Section 4 below is not so much, or not only, a list of statistics for regular collection, but the setting up of a statistical capacity to meet the diverse ad hoc needs of the various research planning and operational agencies. That is the significance of the socioeconomic observatories that are more fully described in that Section.

Data sources available to planners

This sub-section deals with the major sources of data that the planners rely on to provide them with the requisite information to help them develop and execute their plans. This report focuses attention on the institutions that

provide data rather than the methods by which the data are collected. The major institutional sources of data may be classified in ascending order of importance as follows:

1. The local planning units themselves, i.e. the Regional Planning Offices and local development committees may at times complain about lack of research facilities, but the former at any rate attempt to gather some information on socioeconomic conditions in their regions. The Regional Planning Office of the Central Region during June-September 1976 employed students to upgrade regional data on post and telecommunications, water supply and use, education, industries and agricultural projects. Where they find it desirable, the Regional Planning Offices sponsor or contract out research projects on socioeconomic studies to the universities. The planning officers also make on the spot checks and make personal contacts to gain knowledge about emergency situations. These informal methods have the advantage of exposing the planners directly to the problems; but they have the disadvantage of being too unstructured to yield valid scientific information.

The village and town development committees should also be considered as important sources of information in the sense that the complaints they make to the Regional Planning Offices provide important information on local conditions as a basis for further investigation by the regional planning officers.

2. United Nations agencies and non-governmental international agencies supply occasional reports based on special studies in specific areas of the country.

3. Universities and research institutes, including the Council for Scientific and Industrial Research: the main social research institutes include the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana, the Centre for Development Studies at the University of Cape Coast and the Department of Regional and Physical Planning at the Faculty of Architecture, University of Science and Technology. The research institutes and individual researchers have produced interesting

studies on some aspects of village life. For example, William Becket studied a cocoa farming village, Akokoaso, in 1937 and after a generation reviewed his findings in 1969. 1/ Polly Hill started her studies on Ghana with a survey of migrant cocoa farmers in the Eastern Region and has followed that with studies in rural capitalism in West Africa in which she has analyzed the life-styles of the Ewe Seine fishermen and cattle ranchers in the Accra plains. 2/ Jean Steckle has also studied two Ewe villages, Juapong and Vane. 3/

In 1976, the planning officer of the Central Region commissioned ISSER to conduct a study on the progress and effectiveness of a Dr. Isert Rural Development Project located at Elmina and its environs. In general, many of ISSER's studies relate to selected social and economic issues of direct and potential interest to planners, even though they provide no continuous flow of data. Regional planning officers interviewed felt that their links with the research institutes and the universities are not strong enough. They expressed the need for regular flow of information on the trend of development in the country, and the use of case studies to provide information on specific localities.

4. Government institutions which collect primary data as a by-product of their normal administrative functions: their sources are referred to as administrative records. Ministry files at the regional headquarters are often available upon request. The problem with such administrative records is that they are often in very raw, unanalyzed form and require analysis before they can be used for planning purposes.

1/ William H. Becket, *Akakoaso: A Survey of a Gold Coast Village*, Monograph of the London School of Economics and Political Science, London University, No. 10.

2/ Polly Hill, *The Migrant Cocoa Farmers of Southern Ghana*, Cambridge, 1963.

3/ Jean Steckle, *The Effects of Industrialization on Food Consumption Patterns: A Study of Two Ewe Villages*, ISSER Technical Publication, No. 20, Accra, 1972.

5. Government agencies primarily concerned with collecting primary statistics: the principal agency is the Central Bureau of Statistics (CBS). It is charged with the main responsibility for primary and official statistics for the use of the Government. Established formally in 1961, the CBS grew out of the Office of the Government Statistician, a statistical unit established in 1948 to supervise the 1948 population census of the Gold Coast. The 1961 Statistical Act enjoined the CBS:

(a) To collect, compile, analyze, abstract and publish statistical information relating to commercial, industrial, agricultural, social and financial, economic and general activities and conditions of the inhabitants of Ghana.

(b) To collaborate with the public services, and other officials and quasi-officials and other organizations, in the collection, compilation, analysis and publication of statistical records of, or connected with, those organizations.

(c) To conduct general purpose statistical surveys, including censuses, in Ghana.

(d) Generally to organize a coordinated scheme of economic and social statistics related to Ghana, and

(e) To advise on all matters of policy relating to statistics.

The CBS has four sub-units: The Primary Statistics Division; Demography and Social Statistics Division; Economic Research and National Accounts Division; and Methods and Standards Division. But for a better understanding of the role of the CBS in the development and implementation of development plans at the local level, the most relevant sub-units are the Primary Statistics Division, and the Demography and Social Statistics Division. The Primary Statistics Division collects and processes primary statistics and statistics relating to subjects which are by-products of administrative procedures. The Demography and Social Statistics Division is however the most frequently utilized unit of the CBS by local planners because of the

simple fact that most projects demand, as a prerequisite, a study of the demographic and social characteristics of the project base.

This Division has two major closely-related functions to perform. It is responsible for the development and compilation of population statistics, vital and migration statistics, and statistics relating to the social aspects of society in Ghana.

The Division has the following sections:

(1) Population Census Section

Responsible for the registration of births and deaths (also compiled by the Ministry of Local Government), conducts national decennial population censuses and compiles external migration statistics, i.e. the movement of people in and out of Ghana. Movements across land frontiers are not fully recorded, especially in the case of Africans.

(2) Social Statistics Section

This section has been charged with the task of compiling data related to the provision and distribution of welfare services in the country. These include health and educational services and civil and criminal actions. Two of these areas have developed as sub-sections of the whole. They are:

(a) The Education Statistics Unit, which utilizes statistical material from the Ministry of Education to publish an annual paper on education statistics;

(b) The Judicial Statistics Unit, which is a fairly new unit that has been established to assist the Administrative Units (including Police and Courts) in the assembly of data related to judicial matters.

Besides the Central Bureau of Statistics, *other government agencies* involved in the collection of primary data include the Water and Sewerage Corporation, Ministry of Health, Bank of Ghana, the Ministry of Agriculture, Economics and Marketing Division, and the Ministry of Education. The

CBS is expected to act as a coordinating authority. While most of the reports relate to socioeconomic development, they give aggregate data on a national basis rather than micro data. The only exceptions are the population census and a few of the CBS publications concerned with labour and industrial statistics which include series on employment and earnings on a regional basis.

The Central Bureau of Statistics has been beset by a serious problem of lack of technical staff. Hence most of the annual series are well behind schedule. At the time of writing this report in 1976, the latest published issue of 'Labour Statistics' was for 1971 and covered the year 1970. The decennial population censuses seem to be the most comprehensive and appropriate sources of information for planning at the local level. Ghana has had two very comprehensive and detailed censuses, in 1960 and 1970. From the published information of the 1960 census, data are available on total population, age-sex distribution, family size, occupation, literacy and other socioeconomic characteristics such as migratory trends and characteristics of households and housing. The published figures sometimes employ the region or the district as the unit of reporting. When required, information can be provided for specific localities from the stored computer information.

The census data have however three basic limitations. First, like the other reports published by the Central Bureau of Statistics, they are published so belatedly. At the time of writing, only two out of six intended volumes of the 1970 census have been published. Secondly, since the censuses are conducted decennially, it is difficult to infer what happens within the decade. Finally and most importantly, even though the census is the most comprehensive source of information, it fails to provide information on many components of development.

An information system is needed that will have greater frequency of coverage and publication and will deal with all major aspects of development. It is difficult to conceive the present sources as providing either a unified, coherent set of data on changing levels of living, based on and related

to the community level, or as a flexible data *capacity* able to meet important demands at short notice. (Clearly, not every demand is important, and many problems can be solved without detailed, or any, statistics.) Present arrangements grew up largely as a series of historical accidents, and while they have served many purposes well, this may be a good time to take another look, to modify, to adapt and to innovate.

The innovation described in Section 4 below particularly meets the demand for (i) coherence, i.e. the integration of various sources of data into a single framework, (ii) disaggregated data, i.e. providing distributional, as well as aggregated data, sometimes down to the community level, (iii) speedy ad hoc provision of data, as well as certain routine series, and (iv) closer links between data collection, analysis and users through modified institutional arrangements.

Various kinds of innovation are being attempted. Just as integration of economic statistics was more or less achieved through the National System of Accounts, so there has been in recent years an attempt to integrate social and demographic statistics through what has been called a System of Social and Demographic Statistics, promoted through various international agencies 1/ (there are presently various conflicting concepts of what such a system should consist of and what should be the basis of integration). The idea of improved data collecting *capacity*, for example by means of a permanent national household sample survey organization, though far from new has been recently given a new lease of life through the United Nations and various bilateral technical cooperation agencies. 2/ Improvement of institutional

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1/ United Nations, *Towards a System of Social and Demographic Statistics*, Sales No. E.74.XVII.8, New York, 1975.

2/ United Nations, Statistical Commission, "African Household Survey Capability Programme" (E/CN.3/473), February 1976.

arrangements for the better coordination of statistical activities between suppliers and users has been strongly advocated among others by an Expert Group that met at UNRISD 1/, and by the United Nations. 2/

There has been no shortage of ideas in this field, but the results have in general been meagre for a variety of reasons. Perhaps, its advocates have aimed too high, have seen improvements in terms of initially unduly complex technical and institutional changes, involving all-embracing, multi-sectoral systems of statistics with inter-linked matrices; large and important coordinating councils virtually at cabinet level; or expensive multi-purpose national household surveys with large samples.

The ideas put forward in Section 4 are initially simpler: a modest set of sample settlements that could function as socioeconomic observatories, a coordinating unit of one or two professionals to integrate the work of the observatories with other data, etc.

1/ UNRISD, *Improvement of Development Statistics, Report of a Group of Experts*, Report No. 76.4, Geneva, 1976.

2/ United Nations, "Report of the Expert Group on Social Statistics and a System of Social and Demographic Statistics for Developing Countries", ESA/STAT/AC.3/2, New York, 1976.

SECTION 3

A PILOT SURVEY OF THREE VILLAGES

The purpose of the pilot survey of three villages was two-fold: to examine an initial test list of indicators of levels of living for their relevance to the three villages, and if necessary propose new ones, and secondly to explore methodological implications of basing monitoring of progress on the village as a unit.

Of the three villages, one was in the coastal plain, one in the forest zone, and the third towards the savannah belt. For reasons of logistics, the three villages, though representing different kinds of ecological conditions, were within reasonable travel distance from Accra. One of the villages has a population of 960, another of 830, the third is the seat of the Paramount Chief of the district, with a population of 2,260.

Housing and associated facilities

Whereas housing in one of the villages was in poor shape - villagers complained of flooding in the rainy season because of bad siting, poor drainage and defective roofs - houses were better in another village and still better in the third. Convenient indicators in the context would relate to the material of walls - cement or swish were the two main alternatives - and of roofs - thatched or corrugated iron or asbestos; and new houses under construction at a point of time. Resiting of the houses to a higher patch of land would be progress in one village.

A second principal distinction between better and worse off villagers relates to the supply of drinking water. One of the three villages had piped water all the year. Another had water partly from tanks on the roof subject to infestation from bird droppings, partly from a stream known to be infected with bilharzia. The third village obtained water from a well, but the well tends to dry up part of the year.

Another complaint related to the use of personal, allegedly contaminated, buckets for hauling the water from the well. Indicators would relate to the principal source of all-the-year-round water, and its condition. The village head teacher in one of the villages thought for example that if the villagers used a hydraulic pump to draw water from the local well, that would constitute progress. It might be added that if the villagers started boiling their water and purifying it with alum before drinking that would also constitute progress. Rural development should not necessarily be seen as spectacular transformation of the village landscape through the introduction of bright lights or the building of cinema palaces, but rather through meaningful practical inputs that will directly improve the living standards of the rural people. Some changes may be rather abrupt, while other phenomena may change more slowly.

Presence or absence of electricity was thought to be important. One of the villages had electricity available for street lighting, but only one of the houses was wired to the mains. The other two villages had none. An indicator should distinguish between supply to the village and connections to individual houses.

Other indicators relate to refuse disposal for which there are presently no organized arrangements, and latrines. About one third of the houses in each of two of the villages had latrines in the compound, but only about one house in seven in the remaining village.

Health and nutrition

None of the villages had a health clinic, dispensary or other permanent facility. The nearest hospital was respectively 7, 12 and 21 miles distant. All villages had herbalists. Children would have to be, but seldom were, taken to the nearest town, for immunization. One village reported bilharziasis as a health risk.

A rapid survey of the nutritional status of children between 12 and 60 months in terms of their upper arm circumference, controlled by age, suggested that a proportion of

the children might suffer from calorie-protein deficiency. More systematic examination of height/weight ratio controlled by age, together with study of clinical symptoms and some indication of food habits would be needed in confirmation.

Suggested indicators thus relate to the availability of health posts in the village for emergency treatment; the proportion of small children that have been vaccinated against specific diseases (leaving it open how best an immunization service should be provided: an ambulatory service visiting the villages or a greater incentive than now exists for the children to be taken to the nearest hospital providing the service); whether certain diseases exist (thus bilharziasis presently exists in one village, guinea worm in another. Their disappearance would denote progress). In respect of nutrition, proposed indicators are anthropometric measurements such as weight, height and upper arm circumference of small children, whether there are cases of kwashiorkor and the proportion of households that take meat at least twice a week. Distance to the nearest hospital is considered as background information. A lesser distance from the villages to the hospital than presently exists (21 miles maximum) might presuppose a less than optimal distribution of hospitals, and not necessarily progress for the people of the regions as a whole, even though convenient for the people of particular villages.

Education

All three villages had primary schools attended by children from the villages themselves as well as from adjacent villages, two villages had a middle grade school. Problems relate to enrolment, attendance and equipment. Primary enrolment was respectively 30, 50 and 54 per cent. The adult literacy rate (to some extent a reflection of education in the past, modified by migration) were respectively 46, 22 and 41 per cent. Complaints were made about the condition of the school buildings, and the lack of sufficient textbooks and other simple teaching aids.

At the Ghana Workshop, it had been proposed that distance from the village to the nearest secondary school might be a good indicator in the sense that children should have reasonable access to secondary schools within daily commuting distance. This point was questioned in the context of the village studies. Traditionally, secondary schools have been located in the coastal districts and children whose parents could afford it, were sent there as boarders. Whether or not this idea is maintained, the objective of a secondary school within commuting distance was thought to be often impracticable. A better indicator of secondary schooling might simply be attendance of children of various income groups at secondary schools, whether the children commute daily, board at the school or with relatives within reasonable distance from the school.

Transport and communication

Two of the villages lay on trunk roads, one three miles away from the nearest trunk road. For the villages on the trunk road, the problem was not so much the lack of vehicles to take them to the nearest town for commercial activities, visits to health centres, etc. - there were apparently sufficient private trucks - as the relatively high cost of this form of transport. A government bus at low fares would be considered progress by the villagers. For the villagers without a trunk road passing through the village, a good road had been constructed to link the village to the trunk road. However, very few vehicles passed along this road, and most of the villagers had to walk three miles to reach the trunk road. Progress here presumably would take the form of periodic, reasonably priced transport. In the third village, the problem was one of security rather than transportation. Trucks passed through the village at high speed. The chief thought the children were in danger (no accident had occurred so far) and had asked the authorities for a roundabout to make the trucks slow down.

In respect of communications, one village had facilities for sending telegrams, the others had none and the villagers here were concerned about the absence of facilities in case of emergencies. Poor mail delivery was mentioned in two of the villages.

Security

It was mentioned in one village that personal security was not a major issue. The people knew each other personally, and what minor crime and dispute occurred was settled by meetings of the elders. A police station would be no advantage.

Employment, income, consumption

Attempts were made through interviews to obtain information separately on money income from agricultural sources (production, processing, sale), money income from non-agricultural sources and income from agriculture in kind. This separation would be necessary in monitoring procedures in an attempt to get an approximate estimation of total household income. An indicator 'the proportion of adults mainly employed in non-farm occupations' is also suggested. Information on employment may be considered useful as background information in relation to income. Its significance in its own right depends on the context. While in the comparison of nations the percentage of the adult labour force in non-farm occupations is highly associated with development, this may or may not be the case at village level depending on the local production structure. In a comparative study of Swiss communes conducted as part of the present project, the economically active in primary industry (agriculture, forestry, etc.) as a proportion of all economically active was highly and *negatively* correlated with indicators of development (see Volume I of the present report).

Other indicators in this group have been proposed provisionally and subject to further experimentation. While respondents are generally more willing to supply information on expenditure than on income and while expenditure data may be more closely related to levels of living than income, collection of expenditure data, if properly done, is also a complex operation. While data on possession of certain durables, like radios or bicycles, on the other hand, are easily obtained, their significance would have to be tested in particular situations.

Production

As an item of background information, it was noted in one village that many of the men worked on a nearby state farm. Employment in another village was largely dependent on a single large-scale fishing enterprise. Small-scale agriculture accounted for much of the remainder of remunerative employment. The third village had once been the district headquarters where agricultural extension officers had been stationed. These had since been removed, as had a local depot for cocoa. Cocoa now has to be sent to another village, 34 miles distant, for temporary storage and sale. Factors such as this, affecting a single major source of employment and income are evidently important and should be noted as part of the monitoring process.

Methodological issues

It was noted that none of the villages was self-contained in the sense that the resident and working populations were the same, or that all the various social services were locally provided for the population of the villages. In one village, employed women outnumbered employed men by almost five to one at the time of the survey for the reason that the men worked in another village where they had a second residence, coming 'home' in certain seasons only for local festivals or burial celebrations. Similarly, the schools in each of the villages catered for surrounding communities as well as for the local youth. On the other hand, modern health services, as distinct from the services of herbalists, had to be sought outside the villages.

In other words, the villages tend not to be self-contained, homogenous units in respect either of the production system or services provided. The implications for the design of future monitoring schemes are complex. If it is the intention to monitor levels of living of individuals or households, it does not greatly matter where these are located, as long as a representative sample of them is included in the monitoring scheme. In other words, the women would be included in one locality and the men in another. In practice, as samples are less than perfect reproductions of the universe, some checks would have to be built

into the sampling procedure to ensure that all types of individuals and households are indeed represented.

If, on the other hand, the monitoring is intended to encompass also the development of settlements or communities, then it may be advantageous to have the sample areas (they are below referred to as socioeconomic observatories) consist of clusters of villages which between them contain relatively self-contained production and service units. For example, the village containing the primary school could be combined with the villages from which the children come to attend this particular school. If the men work in one village and the women live in another, then the two villages could be combined in the observatory. This may not be, in practice, feasible unless the observatories are very large indeed, because catchment areas may differ in respect of different services and production units (e.g. what is a convenient cluster for education may not be convenient in terms of production).

SECTION 4

A DEVELOPMENT MONITORING SERVICE FOR GHANA

In preceding sections, a case has been made for a statistical system that can serve the needs of development planning and analysis at both the national and local levels. In this section we will consider its characteristics and inter alia indicate the criteria for choosing the settlements or localities which will be the units of observation and the indicators or types of information that should be collected from such localities.

Advantages of a Monitoring Service for Ghana

Serious consideration is now being given to the need to restructure existing institutions and to provide new modalities for improving the lives of the poor masses in Ghana. As mentioned, the Government has proposed decentralization to permit decision-making at the district level. A necessary concomitant of these proposals will be the need for more disaggregated data. Already our preceding analysis has shown the inadequacy of existing data sources.

The requirements of an improved system were summarized at the conclusion of Section 2. It was stated there that a Development Monitoring Service should meet the demand for (i) coherence, (ii) disaggregation, (iii) emphasis on capacity to provide ad hoc data as needed, as well as regular series, and (iv) better contacts between collectors and users of data.

The Development Monitoring Service, which will be initially confined to rural areas, will have the following characteristics:

(a) A representative set of rural observation areas (i.e. villages, clusters of villages, clusters of homesteads, small rural towns) will be selected, on the basis of criteria as described below. These areas will be in

the nature of socioeconomic observatories. They would serve the dual purpose of providing regular information, to be collected by investigators at regular intervals which in certain cases need not be frequent, depending on the likely rate of change of the characteristic. These data are provisionally specified in the list of indicators below. The other purpose relates to the collection of ad hoc data. When planners and decision-makers require particular information, on specific aspects (examples are the condition of women, or changes in technology, or the role of specific institutions) such data can be collected without undue delay in the same 'observatories', which would have a certain statistical infrastructure, such as the availability of skilled investigators, and certain background data would be known.

(b) The data obtained from the local observatories should be combined, screened, analyzed, integrated with other matching data as appropriate, and fed to the potential users of the data in easily digestible form. The institution to be set up for this purpose could be initially a relatively small unit, of one or two professionals, within the central planning agency or working in close colloboration with it. This unit should act as intermediary between users and collectors, screening data demands for need and relevance and passing them to the observatories and, in turn, making sure that the data when they return are suitable for use, particularly for use by non-statisticians and busy administrators who do not have the skills, time or inclination to analyze complex tables or disentangle the gist of relevant information from long reports.

The following paragraphs contain details of the selection of socioeconomic observatories in Ghana, of the proposed indicators, and of proposals for institutional arrangements.

The observatories will serve as social laboratories for researchers. Since the infrastructure for research, including good will with the local residents, will have been established

in these localities, researchers interested in specific aspects of development can continue, up to a point, to re-study the same localities.

Criteria for selection of localities as socioeconomic observatories

It is important to consider what type of settlements can be used for the socioeconomic observatories and what criteria should be used in selecting them. UNRISD, in the initial research design, noted that the localities might include villages or other rural communities, small towns, districts in a large city or clusters of villages. The settlements could be either rural or urban. The original research design had envisaged that major types of settlements (i.e. urban, semi-urban or rural) would be identified in the pilot study. But as noted in the report on the Workshop held in Geneva, "it is to be left to the decision of each participating Institute whether or not to include urban or semi-urban, in addition to rural areas".

In the case of Ghana it was decided to restrict the study to rural areas for the following reason: Ghana is predominantly rural. In 1970, over 70 per cent of the population lived in areas defined by the census as rural. A study of real progress at the rural level is therefore consistent with studying the standard of living of the majority of the population of Ghana. It was accepted at the Accra Workshop that urban slums may constitute pockets of poverty; and that even in medium-sized towns there would be incidence of poverty. But if, for practical reasons, monitoring should initially concentrate on one or other sector, then the rural sector should get preference, and this is proposed here.

The distinction between urban and rural settlements varies from country to country and is sometimes rather arbitrary. Several criteria, including population size, population density, occupational structure, administrative function and the availability of specific socioeconomic amenities, may be used in defining urban settlements. However, most countries use population size as the sole criterion. Here too experience varies from country to country. Sierra Leone

and Uganda, for example, use the 1,000 population mark as the lower limit of urban areas. Because of the varying practices, the United Nations in international statistical comparisons, leaves the definition of rural areas to the individual country's discretion.

In Ghana, the censuses of both 1960 and 1970 adopted 5,000 as the upper limit of villages. According to the 1970 census there were 135 towns in Ghana and 47,634 villages. The present writer has made a detailed study of the 135 towns and has concluded that 23 of the towns do not have sufficient recognizable social and economic infrastructure and should be considered as overgrown villages. 1/ For the purposes of the present study, however, the official demographic definition of urban centres will be accepted and for the time being, all 135 towns will be excluded from the Development Monitoring Service.

Type and size of observation area

The most striking feature of Ghana's rural sector is the large number of small settlements. In terms of number of settlements, less than 0.5 per cent of the settlements in Ghana can be considered as towns, i.e. nucleated settlements with population of 5,000 or more. Most (84.6 per cent) of the settlements in Ghana have populations of less than 200 persons, as shown in the table below. Most of these settlements are very small; the average size of the 35,974 settlements in the smallest size group is 20 inhabitants.

As it seems desirable to have observation areas of not less than a certain size, and given the small size of most of the villages, each area should comprise a cluster of villages, because for some indicators most villages will prove to be too small to serve as the unit of observation. Mathew has rightly observed that socioeconomic indicators depend for their statistical stability on the size of the population, and has indeed demonstrated that statistical fluctuations for an indicator such as the birth rate are highly erratic

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1/ Kodwo Ewusi, "The Towns of Ghana and their Levels of Development", *Universitas*, forthcoming.

DISTRIBUTION OF SETTLEMENTS IN
GHANA BY SIZE
1970

Size	No. of settlements	Per cent	Population	Per cent
- 100	35,974	75.3	796,515	9.0
100 - 199	4,449	9.3	632,023	7.4
200 - 499	4,268	8.9	1,340,827	15.8
500 - 999	1,795	3.8	1,233,161	14.5
1,000 - 1,999	826	1.7	1,125,217	13.2
2,000 - 4,999	322	0.7	958,914	11.2
5,000 - 9,999	83	0.2	554,069	6.5
10,000 - 19,999	29	0.1	378,960	4.4
20,000 - 49,999	17	*	460,713	5.4
50,000 - 99,999	4	*	254,234	3.0
100,000 and more	2	*	824,480	9.6
	47,769	100.0	8,559,113	100.0

* Less than 0.05

Source: Kodwo Ewusi, "Dimensions of Rural Poverty in Ghana", *African Development*, July 1976.

when the indicator relates to a single small village. 1/ In Ghana, about 97 per cent of the rural settlements have population of 1,000 or less and cannot serve individually as observatories.

For statistical stability of many of the indicators, the cluster of settlements should have a minimum size of

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1/ N.T. Mathew, *Measurement of Real Progress at the Local Level: A Contribution Towards Planning Social and Economic Development in India*, Geneva, February 1974.

about 5,000 - 10,000. But the optimal size should consider also the physical area to be covered during surveys. It should not be unduly inconvenient for the interviewer residing in one part of the area to reach other parts. Hence, the actual size should be determined separately in each case, bearing in mind the need for statistical stability obtained from a certain minimum size and the inconvenience of a physically scattered area.

There are sometimes other reasons for choosing clusters of villages rather than single villages as observatories. In the course of the village surveys it was found that the facilities in one village may be used by other, outlying villages. For example, in the three villages, the elementary school is attended by children from villages within a radius of five miles. Since these villages share also other facilities including the mobile health service and mobile cinema, it would be desirable to consider such a group of villages within one observatory. Finally, in one village, it was found that the male citizens usually move to outlying villages during the farming season. But they still maintain their homes in the village which we studied. The residents of the village considered the other outlying villages as part and parcel of their area. Inclusion of the outlying villages would present a more comprehensive picture.

Apart from size, a factor that should influence the selection of settlements for observation should be the ecological differences in the country. Determined largely by the rainfall, which diminishes from south to north, Ghana can be divided into three main ecological zones: the Northern Savannah, the Forest Belt and the Coastal Plains.

(1) The Northern Savannah. The Northern Savannah, sometimes called the Guinea Savannah covers about 52 per cent of the country. The vegetation comprises mainly very short trees, often widely spaced with a more or less continuous carpet of grass. Most of the area has a single rainfall regime, although in the transitional zone along the south the regime of rainfall approaches that of the forest belt described below. The annual rainfall is between 100-115 mm., but the dry season is very intense and imposes a limit on

the vegetation. The intense aridity during the Hamattan (November to April) season causes the soil to become very dry. In the extreme northeast corner of the country, north of the Cambaga scarp, that is around the Bawku district, the marked absence of trees is due to the extensive destruction of the natural vegetation as a result of human settlement and continual burning. The majority of people in this zone are peasant farmers, practising shifting cultivation with a single harvest each year. The main crops are millet, guinea corn, yams, groundnuts, tomatoes and rice in increasing quantities. The present Government's agricultural production has been pursued very vigorously in this region and it will be interesting to find out what types of changes it can bring to the quality of life of the people especially in the north.

(2) The Forest Zone. The Forest Zone occupies the whole of the southwest part of Ghana, south of the Voltaian Plateau and west of the edge of the Akwapim ranges. Within the high Forest Zone, two sub-divisions are generally recognized: (i) the rain forest and (ii) the semi-deciduous forest. The rain forest is found in the extreme southwest corner of the country, where the annual rainfall ranges from *65* to *86* inches. The relative humidity is very high and there is pratically no month without rain. The rain forest does not extend much further north of Prestea or east of Dixcove. The rest of the rain forest is made up of moist deciduous forest. The annual rainfall in this area varies between *50* and *65* inches. The forest belt as a whole covers about 34 per cent of the country. This area produces the major wealth of the country, cash crops (cocoa, rubber, oil palm), timber and minerals. The rural residents here thus engage in both subsistence and cash cropping.

(3) The Coast and the Coastal Plain. The rainfall in this zone is less than in the Forest Zone (an average of 33 inches) as indicated by the savannah type vegetation seen in the southeastern part of the country around Accra. This zone extends as a narrow strip from Takoradi in the west and widens towards the east to reach a width of 20 miles in the vicinity of Keta. The vegetation consists either of dense scrub with hardly any grass or else of grassland studded

with bushes and patches of scrub. The commonest type of grass is the guinea grass. In the wetter western parts and also in the extreme east, coconut and oil palms are common. Extensive fishing is carried on along the coast.

It was suggested that the selection of the socioeconomic observatories should be based on the ecological divisions of the country.

Localities should be chosen from each of these three types of areas. Political factors should also be considered as important criteria for the choice of the observatories. It has been observed that most studies, especially those based at the University of Ghana, have been confined to the Eastern, the Greater Accra and the Volta regions. It is expected that in the establishment of socioeconomic observatories, a fair distribution between regions will be maintained. It is suggested that a minimum of two observatories should be selected from each of the nine regions.

The types and characteristics of socioeconomic indicators

(1) Real vs. monetary. Dethroning of gross national product as a measure of welfare has led to some disenchantment with monetary variables. Other problems including the pricing of non-marketed goods, price inflation and different prices for the same commodity in different localities in the country make it even more desirable to use as far as possible real variables. The emphasis on 'real' progress in the title of this project implies that there will be a de-emphasis of monetary variables and an emphasis on variables in non-monetary terms. However, some indicators relating to income and wealth are still most conveniently expressed in monetary terms. They should be used jointly with indicators in real terms.

(2) Averages vs. distributions. Many of the indicators covering the community and even on households will be expressed as averages, e.g. per capita. But in this study, progress is assumed to entail not only changes in available goods and services in the aggregate or per capita but also their equitable distribution. The indicators should be formulated accordingly.

(3) Indicators of 'input' vs. indicators of 'output'. Moser has suggested that development indicators should relate to outputs rather than inputs of development programmes. 1/ For example, in certain countries, indicators of improvements in health are preferable to indicators giving expenditure on health services; and indicators referring to the raising of educational levels may be preferable to indicators of attendance at school. One possible problem in deciding to choose between output and input variables is that some variables are really intermediate, or both.

(4) General and specific indicators. Another distinction to bear in mind is in the use of general as compared to specific indicators. The indicators should have relevance to the locality being studied. Thus, the January 1975 UNRISD Progress Report gives an interesting example: "Progress in one village in Ghana might take the form of having a well rather than a pond from which presently villagers contact bilharzia. In another village, where a well exists, some kind of mechanical system of hauling buckets or a hydraulic pump would be progress." 2/ The indicators needed to measure progress even in two localities of the same country may be different. On the other hand, in reporting at regional and national levels some form of aggregation may be desired. An attempt will be made to provide specific as well as general indicators.

At the Accra 1974 Workshop there was general agreement on the components of development but there was a lively discussion on the indicators chosen to represent the components. Generally, it was urged that indicators should be found to cover all the components of development listed in Section 2 and that these indicators should be of relevance to villages in Ghana. On education for example it was

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1/ C.A. Moser, "Social and Economic Indicators", paper presented at the 13th General Conference, International Association for Research in Income and Wealth at Ronneby Brunn, Sweden, August 1971.

2/ UNRISD, *Progress Report, The Measurement of Real Progress at the Local Level*, Geneva, January 1975.

suggested that in addition to adult literacy rate, the distance to the nearest secondary school and the percentage of students who pass the common entrance examination be added as indicators. On health, it was stressed that the indicators should include the number of native doctors and herbalists resident in the village; and the number of cases successfully handled by these herbalists. Also absence from work or school due to ill health was proposed. On housing and sanitation, suggestions were made that simple room occupancy rate was not enough. The proportion of population using sanitary facilities such as pit latrines was suggested as an indicator. Most, if not all, the suggestions could be accepted. Based on these discussions, the guidelines for the initial research design drawn up at Geneva and the pilot surveys, the following list of indicators is proposed for use in the observatories, subject to revision in the light of experience.

Provisional List of Indicators for Socioeconomic Observatories in Ghana

A. Demographic Characteristics

1. Population size
2. Population growth
3. Sex ratio
4. Child dependency ratio
5. Persons who have migrated from the village since previous survey

B. Housing and Associated Facilities

6. Room occupancy ratio (persons per room)
7. Proportion of houses built with cement
8. New houses under construction as proportion of housing stock
9. Proportion of houses roofed with corrugated iron or asbestos sheets

10. Proportion of households using 'treated' water for drinking

11. Principal source of drinking water in the village and months in the year when sufficient water is available

12. Proportion of households having adequate lighting (as defined)

13. Proportion of households that cover their refuse and remove it regularly

14. Proportion of population that sleep on beds and purchased mattresses

15. Presence of electricity in the village

16. Proportion of households having electricity in the house

C. Health and Nutrition

17. Presence of a health facility (dispensary, clinic, etc.) in the village

18. Distance (in km.) to the nearest hospital/clinic

19. Number of herbalists in the village

20. Incidence of selected diseases, e.g. bilharziasis, guinea worm

21. Anthropometric (height and weight for age; upper arm circumference) measures of children plotted against an expected curve

22. Percentage of infants under five who have been vaccinated against TB, cholera, typhoid

23. Percentage of weaning mothers who attend post-natal clinics

24. Incidence of kwashiorkor

25. Proportion of households that take meat at least twice a week

D. Education

26. Adult literacy rate

27. Primary enrolment ratio; secondary enrolment ratio

28. Percentage of local school candidates who have passed the Common Entrance Examination

29. Percentage of teachers who are trained (as defined)

30. Availability of textbooks and teaching aids (as defined) in the schools in the village

E. Transport and Communications

31. Presence of post office in the village

32. Frequency of delivery of letters

33. Type and condition of road passing through the village; distance to the nearest trunk road

34. Cost of transport from village to nearest town; frequency of means of transport

F. Production

35. Predominant sources of income in the village

36. Secondary sources of income in the village

F. Employment, Income, Consumption

37. Proportion of adults mainly employed in non-farm occupations

38. Average size of farm owned by household

39. Mean or median household income

40. Proportion of households with incomes below a stated minimum income

41. Mean or median household expenditure

42. Percentage of total expenditures on food

43. Percentage of households with a radio

44. Percentage of households with a bicycle

G. Leisure

45. Presence of cinema

46. Frequency of visits by mobile cinema

47. Presence of bar serving beer, or other drinks

48. Presence of football club or football park

49. Presence of community centre

It has been noted above that an indicator is only a partial measure of a component of development. Thus for each component of development an attempt has been made to find several indicators which represent different aspects of the component of development. Besides the components of development listed above, it was found necessary to include basic demographic data such as population size. In addition, qualitative information on local traditions and customs, on abnormal natural phenomena such as the incidence of flood, on land tenure systems, etc. might be collected.

It must be noted that not all the indicators suggested at the Accra Workshop have been included in the suggested list. It was felt, for example, that the number of cases treated successfully by native herbalists would be difficult to determine, or otherwise it will have to be based on the very subjective appraisal of the herbalists themselves. Distance to the nearest secondary school, proposed at the Workshop, has not been included; but instead the proportion of children of the appropriate age group who attend secondary school, irrespective of location. Section 3 contained further comments on the indicators.

Operating Agency for the Development Monitoring Service

In most countries primary data collection is centralized at the government's statistics office such as the Central Bureau of Statistics. The logical institution to operate a national Development Monitoring Service in Ghana would be the Central Bureau of Statistics. It has an advantage in its long experience in socioeconomic surveys dating from the first surveys conducted at Accra and Akuse in 1954. However, the CBS is at present beset with serious manpower problems and the running of the Development Monitoring Service should be done in close collaboration with the major research institutes which are both consumers and sometimes, through surveys, producers of primary data. The details of such collaboration were discussed at a workshop in February 1977.

It was decided at the Workshop to set up an Advisory Committee for the Development Monitoring Service in Ghana. At its inaugural meeting, representatives of the Institute of Statistical, Social and Economic Research, University of Ghana (ISSER), the Centre for Development Studies, University of Cape Coast (CDS) and the Department of Planning within the Faculty of Architecture, University of Science and Technology, agreed to collaborate in the establishment of the DMS. It was thus agreed that six observatories should be placed under each of the three institutions, with ISSER operating the observatories in the Volta, Eastern and Greater Accra regions, CDS operating the observatories in the Central, Eastern and Northern regions and the Department of Planning operating the observatories in Ashanti, Brong Ahafo and Upper regions. It was agreed further that ISSER should be the central coordinating agency. The three research groups would meet periodically to discuss progress and problems. A bibliography of all research activities on rural development in the country would be prepared.

A Case Study from the Volta region, Ghana

by

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CONTENTS

INTRODUCTION

This contribution to the discussion of indicators of development is based on a study of one locality. It makes no pretension to universal validity. The indicators are examined in relation to a 'rural' town of 4,400 population and the conclusions are valid only for this town and perhaps some other towns of similar character. The conclusions should be further tested in locality studies for their relevance to other towns and villages in Ghana, in order to explore what is universal and what is particular in the development process. 1/

The locality with its 4,400 inhabitants is typical of that 11 per cent of the population which lives in settlements with between 2,000 and 5,000 inhabitants. It is part of the rural area, and by a definition commonly used, a rural settlement, but functionally it seems more correct to call it a small, rural town rather than a village.

The point of departure in the description of the community was the set of indicators for measuring real development earlier suggested by Ewusi. 2/ They were designed to measure development in smaller settlements, with 1,000 to 2,500 inhabitants. The indicators are here tested to see whether they apply also to larger settlements, and additional indicators are suggested to take account of the problems characterizing such communities.

1/ Wolf Scott with Helen Argalias and D.V. McGranahan, *The Measurement of Real Progress at the Local Level: Examples from the Literature and a Pilot Study*, UNRISD, Report No. 73.3, Geneva 1973 (see in particular Section 2).

2/ Kodwo Ewusi, "Measurement of real progress at the local level: Report on the country case study in Ghana," ISSER 1977, as reproduced in this volume.

The report is divided into two parts. The first part of the report examines different types of indicators in the areas of transport and communication, health and nutrition, education, security, leadership, and some indicators are related to economic and productive capacity. The second part of the report analyses the social and economic infrastructure and the process of overall change. It is suggested that for the indicators to make sense, they have to be seen in the light of the overall infrastructure and change.

The description of the community is based on field data collected by the author over a three-year period up to 1 February 1977; altogether one full year has been spent in the community itself. The study has focussed on the agricultural system, and detailed information has been collected on land tenure, land and labour utilisation and the pattern of accumulation and investment among the farmers. At the moment further research is being carried out into the division of labour in the family, and particularly on the role of women in the day to day subsistence activities.

The case study area

The community studied is a small town, Alawo 1/ in the southeastern part of Ghana, in the Volta region. Alawo was recorded in the 1970 national census as having a population of 4,400 inhabitants. The town is situated on a main road, 25 miles from Ho and 80 miles from Accra.

It lies at the foot of small hills and on the edge of a savannah plain. The mean annual rainfall is about 60 inches, but it varies a lot between the hill sides and the plain. Part of the plain and the hills are covered with forest, while the rest of the plain is grassland.

1/ The name is fictitious.

The economy of the community is based on agriculture, though it can be said to be semi-urban. The main division of labour in the town is between the farmers and the traders, civil servants and a number of part-time artisans, like bricklayers, masons, blacksmiths, etc. The only industry is a small sugar-cane crushing factory with 23 employees, producing syrup for local distillation of alcohol.

The agricultural system is based on a combination of food crop rotation and perennial cocoa production. Though the area is a marginal area for cocoa production, the cocoa still occupies half the land under cultivation at any time. There should normally be enough land for supplying the town with food crops, but the access to land is unequally distributed and certain groups of farmers are restricted in their access to land. The fertility of the land is also decreasing and good cocoa land has been in short supply for 30 years.

PART I

Transport and communication

A main tarred road passes through the centre of the town and it is of good quality. There is a bus service that connects Alawo with Ho eight times a day, every second hour. There is another bus, connecting Alawo with a town, which is almost half way to Accra; it runs about four times a day. In addition to the buses, private trucks pick up passengers at the roadside, and two run continuously to Ho on ordinary days, and four on the Ho market day. The number of private trucks passing to Accra has decreased since a parallel and better road was constructed.

There are five private cars in the town, three motor bicycles and about twenty bicycles.

The town has a post office, and the mail comes every day from Accra. There is also a telephone switchboard with five lines. But, as in other parts of Ghana, the lines are not very good and often out of order.

The two major daily newspapers are sold in the street every morning, and since March 1976, a bi-weekly newspaper in the vernacular has been produced in Ho for distribution in the area.

The indicators suggested by Ewusi for transport and communication are: availability of a post office in the village; frequency of delivery of letters in the village; condition of road passing through the village; distance from the village to the nearest trunk road and cost and frequency of transport. The town is already well served with transport and communication facilities, and the suggested indicators cannot therefore say whether any development in relation to Alawo has taken place in this sector. But the communication system of the town is very fragile because of the frequent breakdown of the buses. There are three buses altogether and, for example,

when these lines were written, all three of them were out of order; the traders who came yesterday for the Alawo market day had spent the night at the roadside, because there were no trucks.

Government Transport has two daily buses running from Ho to Accra passing through Alawo. At the time they reach Alawo, they are usually full, and therefore of no use to passengers waiting at the roadside for transport. It would be progress for the town if Government Transport had a bus starting in Alawo and going to Accra. In general terms, it would be progress for the town to get a reliable transportation system, and the quality of the system can presently be indicated by the number of days on which the three buses are actually running their routes.

Housing and associated facilities

The town itself consists of 450 houses. More than ninety per cent of the houses are roofed with corrugated iron. Most of the houses not roofed with iron are to be found in the Zongo, the quarter of the town where the migrants from the North live. The migrant area is usually the poorest part of any town, partly because the migrants are poor and partly because, if they get any money, they use it to improve their home town, and not at the place where they work.

Most of the houses in the town are built of bricks made of a mixture of clay and sand. Only the very recent houses are constructed with cement blocks. Those who can afford to build cement houses are often the retired civil servants, who come back to spend their old age in their home town. The number of cement houses is therefore not so much a question of general economic development of the town, but more an expression of how many of its citizens have succeeded elsewhere. Some of the older houses built of the bricks made of clay and sand are nicely plastered, and of good quality. It may even be difficult to see the difference from a cement house. Cemented floors are found in all houses, and this is therefore not a good indicator of further development of the quality of housing.

From a small sample of 20 households, the room occupancy rate was found to be two. There is usually one room per adult person in the households. There are many houses where rooms are rented out, because of the great number of strangers in the town. The use of room occupancy rate as an indicator of development needs careful interpretation. A lower number of persons per room does not necessarily mean that more houses have been built. It may be an effect of the migration of people from the town.

Each household has its own kitchen, usually built of palm-mats with thatched roof. Persons in the compound usually share a single 'bathroom' which is a four-walled roofless building with gravel floor. The average number of households per compound is 1.9.

The food is cooked on open fires. Clay is used to make a half circle on which the pots are placed. The most common fuel is firewood which is collected on the farms. When the farmlands are cleared by fire for cultivation, the larger trees and branches are left to dry for a year before they are collected as firewood. The firewood is usually collected twice a week, and the farms are far away, often between one and two hours walking distance from the town. With the general deforestation, firewood has become scarcer, and some families do not find enough on their farms, and have to buy it. On the Alawo five-day market, there are about eight sellers of firewood, and about five to ten sellers of charcoal. As virtually no strangers have land of their own, they generally must buy their fuel.

The town has a piped water system. The water is taken from a stream on the outskirts of the town, and it never dries up. The tank has a capacity of 45,000 litres, and the daily supply is about 145,000 litres. The capacity of the system is 9,000 litres per hour, and it works in two shifts a day of eight hours a shift. There are 11 public standpipes, and 10 private connections. The pipe system is under-dimensioned, and moreover the part of the town which is situated a little higher than the rest only gets water a few hours a day. Furthermore, the pump often breaks down leaving the whole town without water for days. In the

dry season, when moreover there is no rainwater to add to the piped water, the supply is only 30-40 litres per person per day from the pipes (the minimum standard given by WHO is 75-90 litres per person per day). The pipe system was established 12 years ago and it now needs renovation. The water problem exists only in the dry season, since almost all houses collect rainwater in drums from the iron roofs. When there is no rainwater, some people walk all the way to the riverside for drinking water because the piped water is highly chlorinated.

There is no public electricity in the town. Some houses have their own petrol driven generators. There are altogether seven of them, four private, one at the secondary school, one at the Adult College and one at the Mobil station. Only the last three are in regular use, while the private ones are used only on special occasions, like Christmas or funerals. People use kerosene lights, either Chinese hurricane lanterns or small open lamps made from old tins. If the town gets public electricity, an important indicator would be the number of houses that can afford their own connection.

The District Council organises public hygiene in the town. So far, 27 per cent of the houses have their own toilet buckets, which are emptied every night. They are collected in a big pit, which is closed when full. There are two private water-closets and another three under construction. There are four public toilets, one with 14 buckets, the other three are pit toilets.

House refuse is dumped at one place on the outskirts of the town, and the municipal workers set fire to it every morning. All edible refuse is given to the livestock: goats, sheep and fowl, which all run loose in the town. The compounds are carefully swept every morning.

For most of the mentioned communal amenities, it is a question of whether it is present or absent in the community, like water, electricity, renovation, etc. But the quality can also be tested. In Alawo, for example, it is relevant to look at the capacity of the piped-water system and the

public toilets, since both need improvements. Another kind of problem is that many people find it difficult to pay their water tax. This resulted recently in the whole system being closed down for a month by the authorities, while they tried to collect some of the money. Water in free supply could be used as an indicator of development.

Income and expenditures: Consumption and possessions

Total income and expenditure figures are almost impossible to get, and their value is very limited for that half of the population that lives in a predominantly subsistence economy. They are therefore not recommended as indicators of levels of living. It may be relevant, however, to look at the composition of the diet as an indicator of levels of living and expenditure on the diet. The presence of meat and fish in the diet is still a question of whether there is money to buy it from day to day. However, in a consumption survey, where 790 meals taken in 40 households were analysed, it appeared that 85 per cent of the meals contained fish, 12 per cent contained meat, both fish and meat often only in very small amounts to flavour the food. Only three per cent of the meals did not contain fish or meat. To differentiate them, it is necessary to look into the actual amount spent on fish and meat.

It is difficult to use other elements in the diet as indicators of levels of living. Fish and meat are what everybody wants in their cooking pot every day, and as much as they can afford. Because of the difficulties in getting 'luxury' commodities like milk and sugar, it is not possible to use these as indicators.

Whether the position of certain items like radios, bicycles, wrist-watches, etc. can be used as indicators of development is problematic, since they more often express status than actual level of living. 1/ These items could even be called bachelors' consumption goods, since they are very often bought by the young males before marriage.

1/ See also W. Scott et al., op. cit. pp. 9-13.

It is more relevant to know what kind of productive assets the households possess, like various kinds of tools or other income promoting equipment. The number of cutlasses, hoes, yam-spades, cocoa-cutting knives, axes, spraying machines, maize shellers, pick-axes, hammers, spades, shovels, digging-bars, sewing machines, motor mills, and special tools for handicrafts are examples.

Supply of consumption goods

Alawo has a small everyday market, where about 40 sellers come during the day to sell a few agricultural products. It is often women who come home from the farm with the harvest and pass by the small market to sell part of the harvest and to buy the fish and other things they need for the evening meal.

Every fifth day is the big market day, and more than 140 sellers sell agricultural products, fish, cloth, medicine, beads, pots, shoes, etc. But the big market place is in very bad condition, and is one of the major problems for the town. The space is not sufficient for the great number of traders who come to sell and the ground is uneven, rough and stony. The shades are made of grass and there are not enough, so many sellers have to sit in the sun. The grass shades do not give sufficient cover from the rain either. Only one small space has a cement floor and iron roof. It would be an important improvement for the town to get a good market place.

But none of the so-called 'essential commodities' are sold in the market. Since a government decree of March 1976, they are only sold from specially designated shops, and at controlled prices. The commodities include tinned milk, sardines, toilet soaps, washing soap, sugar and toothpaste. There are four shops in Alawo, and during the last three months, each of them has had some of the commodities to sell on six occasions only. The quantities they get to sell at any one time just enable them to sell a few tins and one packet or bar of soap to each customer. People queue for hours to get their little share, and the commodities are usually sold out long before all the customers have got their share.

Not many commodities are available in Alawo at the moment, partly because of a general scarcity in the country. It is not possible to buy margarine, nescafé, tea, soft drinks, cocoa, and toilet paper, even though these are all produced in Ghana. Even matches and kerosene are not available in Alawo at the moment.

Three years ago, when the research was started, most of those commodities were to be found in the small shops along the main street. But the prices in Alawo were then between 10 and 50 per cent above the prices in the shops of the Ghana National Trading Cooperation (GNTC). The nearest GNTC is three miles away in Anyirawasi but it is small and very badly stocked. GNTC sell the commodities at controlled prices and retailers buy in the Ho GNTC for further distribution. It would be progress for Alawo to get its own GNTC to avoid the costs of middlemen.

Health and nutrition

When the child welfare nurse in Alawo was asked about the health and nutritional problems of the town, she explained that poverty rather than ignorance causes bad health.

Alawo has a health clinic situated about a mile outside the town, near the Adult College from where it also gets electricity four hours in the evenings. The clinic was built on the initiative of the local women's branch of CPP and the local Queen Mother. The local women worked on the buildings under the communal labour system. The buildings were put up in the beginning of the sixties. Until 1 April 1976, it was under the Local Council and staffed with untrained personnel. From April 1976, the clinic was transformed into a Health Post under the Ministry of Health. It is now staffed with a Health Centre Superintendent, two trained nurses (EN), two untrained ward assistants, one laboratory technician, one midwife with one assistant, two child welfare nurses (two years training), one sanitory labourer, two recorders, one general labourer and one security guard.

The clinic has three sections at the moment: one for treatment, one antenatal and one for child welfare. Further

improvement for the clinic would be to get a trained doctor and a building with beds to make it a full hospital. The nearest hospital is in Ho, 15 miles away, but many people prefer to go 50 miles to either Kpandu's or Akosombo's hospitals, because of the Ho hospital's bad reputation.

The clinic in Alawo receives patients from as far as Juapong, 20 miles to the south and Bame, 25 miles to the north. It treated during the seven months of June to December 1976, 9,113 cases, viz 5,661 children, 1,912 women and 1,540 men. The payment for attending the clinic is 0.50¢ 1/ for the first visit and 0.30¢ for the following which includes the medicine for treatment. Children pay less.

There are also many herbalists in Alawo, every other man claims to be so, and collects plants to sell as medicine. But only 15 are registered with the police. The herbalists treat all kinds of diseases.

Information on the existence of certain diseases has been collected from the clinic. The most common diseases treated were malaria, diarrhoea 2/, children's diseases like measles and chicken-pox. During last year, there were some cases of infectious hepatitis, five cases of bilharziasis, ten cases of guinea-worm, 46 cases of hook-worm and a few cases of yaws. There were last year no cases of cholera, polio, yellow fever, river blindness or sleeping sickness.

Tuberculosis is said to be common; the clinic staff is of the opinion that many TB patients do not go to the clinic for treatment. The welfare nurses who pay home visits in Alawo, look after 20 cases of TB, 15 cases of leprosy and 5 cases of kwashiorkor. The clinic treated 5 cases of kwashiorkor in December 1976, but none of them from Alawo.

As for the health of the smaller children, it is easier to check the weight cards, where their weights are jotted in

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1/ In 1977, the Cedi equalled US $1.15.

2/ The most common causes of diarrhoea are salmonella and amoebas.

against expected curves, than to look for visible symptoms of malnutrition. In Alawo, 14 per cent of the children attending the child welfare clinic were under the minimum weight curve. Another easy measure in regard to toddlers is the upper arm circumference, which can be measured with a marked celotape, where it may be easy to see immediately whether a child is under normal. All these things can be relatively easily registered by the child welfare nurses at the clinic. The problem is how to get information on those children who do not attend the clinic, among whom cases of bad health can be expected to be more frequent, than among those who regularly attend the clinic and get the education and the extra proteins that are distributed. The children who do not attend clinics can only be reached through sample surveys or similar means.

Also the number of child deaths from specific diseases, such as measles, is an indicator of the children's health. In Alawo, last year, two children under one year died (out of 195 born), but not from measles. There were no cases of death among the toddlers (between one and five years). For information on the health of school children the welfare nurses measure height and weight.

The medicine used at the clinic is paid for by the Ministry, and the supply comes from the regional post store in Ho. Because of the former situation where the clinic lacked trained staff, it has not been allowed to prescribe terromycin and other broad spectrum penicillin. This restriction has not yet been raised, and is now a cause of complaint by the staff. Another problem faced by the clinic is a constant lack of sufficient supply of the most common drugs like nivoquin, chloroquin, and codeine. Since most diseases also bring outbreaks of malaria, a treatment for malaria is given automatically with other treatments. Also, the child welfare clinic complains of lack of chloroquin syrup and drugs for curing parasites.

As an indicator of the general health of the adult population, mean age at death can be used. In Alawo, it was 49 in 1976. It is information that is easy to get from the office that issues the death certificates. An indicator of

the health of the women is the number of natural abortions. Registration is being made at the antenatal clinic for the women who attend. Fifteen per cent of the women who attended in December 1976 and January 1977 had at one time or other experienced natural abortions.

Another indicator of the social situation, even if it does not well express the state of health, can be collected from the same source. That is the age of the girls at their first delivery. The median age was 18.6. This is particularly significant, given that two-thirds of the women in Alawo do not marry before they are over the age of 25; 131 of the 132 women who had their first delivery were under 25.

Both the child welfare clinic and the antenatal clinic deal with prophylactic health work. The child welfare clinic receives women from Alawo every second week. They weigh their children and vaccinate them against measles, tetanus and smallpox. It is not possible to know the actual percentage of children in Alawo who have been vaccinated, unless a sample survey includes the question. The vaccinations to be checked are smallpox, tetanus, measles, TB, cholera and typhoid. The last three mentioned can only be given in Ho.

The clinic also advises the mothers on nutrition, health and sanitation, and they distribute oil, wheat flour, sorghum and milk powder to them. They pay 0.10¢ for the food to cover transportation costs; the food is given by USAID. Between 80 and 100 women attend the clinic during each session, and they come from the whole Awudome area. Last year in all, 326 different women attended the child clinic.

Ninety-five per cent of the women from Alawo who gave birth last year visited the antenatal clinic at least once. There is no registration of the percentage attending postnatal service. The antenatal clinic is open for consultations twice a week. Though 622 women visited the clinic in 1976, only about 150 of them gave birth at the clinic. The rest delivered at home with the help of traditional midwives. There are five of them in Alawo.

At the antenatal clinic a family planning nurse from Ho also instructs the women on contraception. The most common method used is the pill which is supplied for 0.20¢ per month. Access to family planning is an indicator of development, and provision of contraceptives free of charge would be progress. Access to legal abortions can also be regarded as an indicator of development, since illegal abortions are very common. The women take herbs or perforate the uterus to provoke bleeding, and it causes terrible trouble for the women who risk sterility and even death. During the last three weeks, two young girls from Alawo have died from provoked abortions.

Two of the welfare nurses pay home visits in Alawo three times a week, and they attend about 40 houses. Once a week, they go to the schools to give health treatment to the school children.

Education

Education is both a part of the problems of the town, such as those described in Part II, and could be a part of the solution of its problems. It is part of the problem, because the type of education given is not directed to solve its problems, and because those who get education often leave the town. But it should be part of the solution to educate people on how to tackle and solve their own problems.

There are many schools in Alawo, two primary, four middle, one commercial and one secondary. Table 1 shows figures of school enrolment.

Table 1

SCHOOL ENROLMENT BY AGE AND SEX (per cent)

Age group	Boys in school as % of boys in each age group	Girls in school as % of girls in each age group
7 - 9	78	87
10 - 12	98	86
13 - 15	82	56
16 - 18	78	38
19 - 21	33	9

Source: Special household survey 1976/77 (160 boys, 166 girls)

School enrolment by sex is a very important indicator of development. The figures show clearly how, at the moment, the girls drop out of the school system at around the age of 15.

Class sizes and teacher/class ratio are also important indicators of the quality of the educational institutions. The mean size of the classes in both primary and middle schools is 35 pupils, and the teacher/class ratio is 1.0 for the primary schools and 1.4 for the middle schools when the home science centre, which serves all the middle schools, is also included in the calculations. All the teachers are trained.

The mean size of the classes in the secondary school is also 35, and the teacher/class ratio is 1.8 but 6 out of the 22 teachers are not trained.

The commercial school has on average 16 pupils per class, and 1.3 teachers per class. Half the teachers are not trained.

The primary schools have been teaching two classes in the same room, but at the moment, eight extra classrooms are being built by communal labour. In the former private schools (five out of eight were mission schools), the pupils have to bring their own chairs and tables. The Government supplies books, stationery and pens. But the pupils are not allowed to take the books home with them in the evenings. The yearly schools fees are 3¢ for primary and 4.5¢ for middle schools.

In the secondary school, 75 per cent of the students are boarders, the rest day students. The schools fees are 38¢ plus 240¢ for the boarding. The students buy their own stationery and pens, the Government supplies textbooks.

Many students find it difficult to pay, and they leave the school with a big debt. It is also difficult at the moment for the school to get money from the Government, so it is in deep economic trouble aggravated by a galloping inflation amounting to 300-500 per cent in three years.

Lack of teaching material is a general problem, in biology, for example, there are not enough books, and the students have to use them on shift. In the science laboratory, there are not enough chemicals for the students to make their own experiments, so 35 or 70 students at a time can watch only when the teacher demonstrates. Nor are there stools in the laboratory, so the students have to stand up for as long as 80 minutes.

The secondary school takes the students only to level 5; to get to the sixth level, it is necessary to go to Peki, Kpandu or Ho.

The quality of the educational standard of the primary and the middle schools is said to have gone down. The reason given is that the teachers are more interested in preparing for their own further education than in teaching the children. All the teachers have the chance to enter university if they pass the entrance examinations. As for the pupils, a very good indicator of the educational standard is the proportion of the pupils who attempt and those who pass the common entrance examination.

Table 2

NUMBER OF PUPILS WHO ATTEMPTED AND THOSE WHO PASSED THE COMMON ENTRANCE EXAMINATION 1976

Form	All pupils	No. attempted	No. passed
Form 1	148	7	0
Form 2	134	23	3
Form 3	132	39	11
Form 4	102	52	14 (another 11 passed the late examination)

Source: Special school survey 1976

The local branch of the People's Educational Association (PEA) was very active in Alawo during the Nkrumah time. One of the results of its efforts was the building of the Awudome Residential Adult College, modelled on the Danish High School idea. It was built partly with communal labour from Alawo and it took almost ten years to complete. It is now administered under the University's Institute for Adult Education and is used as a national centre where courses are held, usually in higher education and often with examinations. The college has little or no function for the town now.

Adult literacy figures can only be obtained from a household survey. From a small sample of only 20 households, it was found that 7 women out of 17 over 25 could read the Bible in the vernacular, and 2 of them could also read English. Seven men out of 12 over 25 could read the vernacular and 2 of them read also English. The sample is too small to give more than an impression, but it is true that those who are active church members often have learned to read the Bible, and that is the majority of the town people.

There is not much educational spill-over on the adults through the children. One of the reasons is that the children do not have the books with them at home to show the parents.

Figures for past school education can be found in the national census: the figures for the population over the age of 25 are shown in Table 3.

Table 3

PAST SCHOOL EDUCATION OF MEN AND WOMEN
IN ALAWO OVER AGE 25
(per cent)

	None	Some	Still at school	All
Males	37	61	2	100
Females	63	36	1	100

Source: National Population Census 1970

The census figures for school enrolment of children between ages 6-14 are higher than those obtained from the household survey shown in Table 1. The household survey gave 80 per cent while the national census gives 90 per cent. It is likely that it is the household survey that gives the correct figures since the data have been collected under carefully controlled conditions.

Religion and leisure

There are in Alawo at least eight different religions represented, and they each have their meeting places. Whether a religious group has a meeting place is probably more a question of the size of the locality and of the number of followers, than of real development. It is difficult to see how availability of church or mosque or meeting place for other religious groups can be used as an indicator.

It is very difficult to give indicators on how leisure time is filled with satisfactory social activities. It is not so much a question of passive entertainment, but whether the social interaction creates a dynamic and pleasurable milieu in which people find it easy to enjoy themselves. Institutions like the different religious groups or the traditional funeral services and wake-keeping, have very much this kind of social integrating function.

There is no cinema in Alawo, but during last year the mobile cinema came five times. It shows mostly newsreels of the President receiving official guests or opening fairs. Or they are educational, e.g. related to family planning, local councils, community centres, and other ideas the Government wants to promote.

There are two bars in Alawo which very occasionally sell real beer. But there are innumerable bars selling palm wine or the locally made 'pito' beer, or the local 'gin'. Real beer is very expensive, and most people also prefer to drink the palm wine. Therefore, the number of beer bars selling real beer is not a good indicator.

The different regions in Ghana have their festivals related to the agricultural calendar. In the Volta Region, it is the yam festival at the harvest of the yam that attracts most attention. Regularity of local festivals would not be a relevant indicator.

Socially, the town is very lively, and men's leisure time is filled with social activities. To 'fill out' leisure time seems only to be a problem that causes concern in the highly industrialized societies.

Personal security, social security and social welfare

There is no police station in Alawo, and this could be regarded as an advantage, because often the police trouble the people more than they help them. The nearest police station is in Anyirawasi, three miles away. Criminal cases are supposed to be reported there, and licenses for selling spirits are also collected there. The police use these opportunities to squeeze people for little 'contributions'.

In Alawo, there are different traditional institutions, which can solve civil cases and also minor criminal cases, like minor theft. The chief can be asked to hear the case, and he can fine the offender. In marital conflicts, the woman can ask the Queen Mother to represent her side of the case. Conflicts inside the lineage can be solved by the head and the elders. It is general custom that whenever a conflict arises, a group of responsible people get together to discuss the matter and try to solve the problem.

During recent years, the number of thefts of crops from the farms has increased considerably, and it has become a serious problem. Crops like yam, pineapple and bananas simply disappear from the fields. The thefts are not often reported to the police, and the reason given for non-reporting is that the owners do not know who did the stealing.

The only welfare system in existence is the traditional family system which ensures that everybody always gets food and shelter, even sometimes with very distant family members. When the migrants lose their jobs or get sick or too old to

work, they return to their family which then fulfils its role as provider of social security.

In Alawo there exist different labour rotation systems where a group of farmers get together and work on each other's farms on shift. There are also three 'contribution' groups, one with 30 women, and two with 100 males each. Each member pays regularly, every day or once a week, a sum of money to the administrator, and members get a certain total of money in rotation. These are savings clubs or arrangements for production, and only marginally organizations for security.

There are no consumer societies and the only cooperatives are the sugar-cane farm and the Cocoa Marketing Board's buying agencies.

Political participation and awareness

The real chief of Alawo does not live in the town, but is established as a big business man in Accra. His elder uncle acts as regent on his behalf. The chief left Alawo in 1960 because he was 'disappointed with the people' and went to Accra. In Accra, he found occasion to expand his then small car repair workshop. He has since become one of the biggest Ghanaian private business men.

Many people in Alawo see lacking leadership as one of the central problems for the town, once the chief left. The regent is an elderly man, uneducated and not very respected. The chief holds in his hand the possibility to mobilize the people under the communal labour system for any kind of community project. When the gong-gong is beaten all the men and women have to come and work. Those who cannot attend have to pay a sum of money in compensation. A careful check is made on everybody that they fulfil the obligations. Communal labour has been most commonly used to maintain and clean the streets and public places. At the moment, new classrooms are being built for the primary schools.

There is a town council which is supposed to meet every week to discuss problems in the town. So far, they have not done much, and not many people in the town know of its existence though it has been in existence since 1975.

The town is under the Ho District Council which collects the levy and the market fees. It is responsible for the market place, the sanitation system (gutters, toilets, refuse) and the schools. Alawo has recently got its own representative on the Council. The District Council was established only a year ago, and it represents an effort to centralize administrative functions and it replaced the former Local Councils. The new structure opens up possibilities for a redistribution of resources between the villages in the district, so that the poorer of them can be helped. But at the same time, it has taken the decisions farther away from those they concern.

Since both newspapers and radios are available in the town, especially the men are quite well informed about national and some of the major international issues. The actual percentage who are aware of certain issues can only be known through a survey.

PART II

Part I of the report has dealt with indicators of levels of living, many of them institutional, which measure the facts of change in living conditions, but explain nothing as to the causes of such change and of development or lack of development in a broader sense.

Part II of the report is an attempt to give the necessary background information on the organization of production and economic and social infrastructure and changes that have taken place, so as to place the level of living indicators in their right perspective.

The demographic scene

Table 4

POPULATION SIZE, ALAWO: 1931-1970

	1931	1948	1960	1970
Male)	not	1,356	2,048	2,225
Female)	known	1,196	2,041	2,178
Total	1,860	2,552	4,089	4,403

Source: National population census of Ghana

The town was very active until the end of the 1950's when, as a result of a declining economy, out-migration began to play a dominant role. The census figures may not show precisely how many people left to work elsewhere. Many of the migrants keep in close touch with the town and may therefore be recorded in the census as still de jure resident there. The census figures nonetheless appear to show the general trend as borne out by the special study mentioned below. According to the censuses of 1948, 1960 and 1970 the population of Alawo increased by 60 per cent between 1948 and 1960, but by only seven per cent in the decade that followed. When broken down by age and sex, the figures

indicate that the younger males are the category most severely affected by migration. Between 1960 and 1970 the number of males between 25 and 44 declined by 26 per cent. Women in the same age group declined by 3 per cent,

A study of migration carried out in 1968 1/ provided more detail than the censuses. Table 5, derived from this study, shows that in 1968 two thirds of the Alawo-born males aged 15 to 29 and more than half of those aged 30 to 39 had migrated from the town. Equivalent figures for women were one third of the 15 to 29 group, and one quarter of the group 30 to 39.

Table 5

MIGRATION FROM ALAWO BY AGE AND SEX, AS OF 1968
(per cent)

	Age group			
Men born in Alawo	15-29	30-39	40-49	50 and over
Never migrated	22	28	39	53
Migrated, but returned	11	18	23	28
Absent in 1968	67	54	38	19
Total - per cent	100	100	100	100
- number	206	192	135	162
Women born in Alawo				
Never migrated	53	61	65	84
Migrated, but returned	11	13	15	13
Absent in 1968	36	26	21	3
Total - per cent	100	100	100	100
- number	277	178	147	149

1/ Patricia Leyland Kaufert, "Migration and Communication: A Study of Migrant-Villager Relationships in a Rural Ghanatan Community", Ph.D. thesis, University of Birmingham, 1977, p. 79.

The study also shows that migration was of more or less permanent character, and that the higher level of education, the greater the propensity to migrate. Most of the migrants were in urban centres, in skilled manual and clerical work. About half of the migrants were married, and between two thirds and three quarters of them had their wives with them as migrants. Most of the women who migrated did so with a husband or to join one.

The household survey carried out in 1976/77 as part of the present study showed very clearly the effects of migration on the population structure. Both sex ratios and the proportion of households headed by women are in this context sensitive indicators. The sex ratios are shown below for different age groups:

Table 6

SEX RATIOS (WOMEN PER 100 MEN) ALAWO, 1976/77

Age group	Sex ratio
15-24	152
25-44	151
45-64	128
65 and over	119
Total	143

As for the household structure, 42 per cent of the households had a female head.1/ Sixty-five per cent of the women headed households contained no male over the age of 15, 82 per cent contained no male of 25 or over. Indeed, the mean age of male farmers was above 50 years. The pressure on those left behind to farm the land and do other related work, and especially on the women, is severe.

Reasons for the migration are to be found in part in the changing pattern of education. Income from the early years when cocoa was highly profitable was invested in the

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1/ Defined as households in which there is no male spouse or other close male relative (sons excepted).

children's education, but what they learned at school did not have much relevance, as mentioned above, for those who may have wanted to become farmers. The formal educational system creates office workers and prepares the children for higher examinations, not for agriculture or crafts. The brightest of the young received an education and left Alawo for the larger towns. This trend was encouraged by the complex of increasing rural poverty, lack of opportunities for employment, failure of agriculture to expand productively, difficulties of access to land, as briefly discussed below.

Productive capacity

Community facilities connected with the development of the productive forces and the general material and institutional conditions of production are important. The level reached in the development process will depend on both the social and the material organization of production. On the material side, it is necessary to look into what kind of technology is available; on the social side, how the production is organized and particularly access to land.

It is important to consider the institutional framework set up to support the development of the productive capacity of the agricultural sector. The Ministry of Agriculture has an office in Alawo from where the activities of its extension system are coordinated. The local Technical Officer (T.O.) lives in Alawo, and spends more time there than in the 17 villages for which he is responsible. Also the Home Extension Unit has placed its T.O. in Alawo, where she educates a number of women in agricultural extension, marketing, food processing and storage, nutrition and health. There are also two nurseries, supervised by the T.O., one producing cocoa seedlings and another producing hybrid oil-palm, mango and citrus seedlings. The office also sells hybrid maize seeds, fertilizer and

insecticides.1/ The Cocoa Marketing Board has two buying agencies in Alawo: PBA and the Farmers' Cooperative Society.

Until three years ago, the Ministry of Agriculture's Mechanical Division (M.D.) had their workshop and tractor-hiring service at Alawo. It has now been moved to Ho, and the availability of tractors has since been a very serious problem for the town. Though only a relatively small part of the Alawo land is suited for mechanization the demand for tractor ploughing has always been more than the M.D. could cope with. At times, there have been private tractors available, but at a higher price, and seldom more than one at a time. How to get access to tractors is probably what the local farmers most often mention as the most serious and difficult problem for them to solve. None of the farmers in town has production of their own sufficiently big to support the costs of a tractor, and all attempts to form cooperatives have had a very short lifetime. But even if somebody could get the capital to buy a tractor and finance it by renting it out to the other farmers, he would find that it is next to impossible to buy a tractor in Ghana today, and it has been so for quite some time.

At the moment, there are two tractors for hire in Alawo, one from the M.D. and one private. The price for ploughing in 1977 was four times what it was three years earlier, M.D. takes 20¢ and the private tractor 25¢ per acre.2/

1/ Sold in 1976:

oil-palm seedlings	3,288
citrus seedlings	984
fertilizer	610 bags
hybrid maize seeds	508 lbs.
chemical for use in storage	1 bag, which was all the available supply

2/ The official price charged by the Mechanical Division is 17¢ but the tractor drivers charge the farmer 20¢ and even 25¢ and keep the balance for themselves.

The lack of sufficient tractors is a problem for both the male and the female farmers. But the women depend even more than the men on tractor ploughing because on their own farms they do all the work themselves, with the help of children. For clearing they therefore depend on their hired labour, or, if the land is suitable, on tractor ploughing.

The most important tool in local agricultural production is the cutlass. Cutlasses have at times been very scarce in the country, but at the moment it is possible to buy them in the shops. They are not sold in Alawo. The nearest place to get them is Ho, 15 miles away. The hoe is almost as important and all hoes in Ghana are locally produced. In Alawo, only two blacksmiths are in work at the moment, and one of them is mostly doing repair work, the other has been sick for some time. Their most important problem is that they cannot get anough scrap metal, e.g. the car steel springs, which are used for making the hoes. The number of blacksmiths working is a good indicator of availability of tools. Two are definitely not able to keep up with the demand in Alawo, and therefore almost all tools have to be bought from Ho and repaired in Ho.

There are four privately owned motor driven mills in the town. They are used for milling maize, cassava and palm nuts. There is also a kneading machine for making bread. For the mills, the same problem as for the buses exists; they continuously break down, so the queues get very long. Only the cassava can be ground by hand, but it is very time-consuming and tedious work.

Changing access to land

The agricultural production unit is the household which usually consists of a two or three generation family. The access to land is acquired through membership of the lineages (which are segments of the eight clans), and the land tenure system follows the traditional rules. Only five per cent of the holdings are privately owned, the rest of the land belongs to the lineages. The distribution of the rights to use the lineage land is organized by the lineage-head and his elders, and each lineage controls many small places of land scattered around the whole area.

The individual male members of the lineage obtain claim on the particular piece of land they have been using, and the rights to use those particular pieces of land will be inherited by the sons. The women get access to the land only through the males, either from their father or from their husband, on whose fallow land they will farm.

A closer look at the farming population shows that it is predominantly made up of small farmers who produce mainly for household consumption and sell part of the harvest as needs arise or if they have an excess.

Access to land is for certain groups a major problem. One quarter of the people living in Alawo are not natives of the town. Therefore, they have no rights to land, and if they want to get land, they will have either to rent it or enter sharecropping arrangements with the owners. Sharecropping gives between one half and one third of the harvest to the owner of the land.

The women are also restricted in their access to land, as they have to go through the males, since only the men hold rights in land. If there is scarcity of land in the family, the women get a share after the men and suffer most difficulties. But a more serious problem for the women is that they cannot, like the men, use forest land, because it is too hard for them to clear, and they lack money to hire labour. They therefore have to choose the less fertile plain grass-land. And if the family does not have its own land, the women must go and 'beg' from somebody else.

There was in Alawo, until some years ago, on the whole, enough land for all the farmers for subsistence farming on a crop rotation basis. Though the land was unequally distributed, if you were a native of the town, it was until recently always possible to 'beg' a piece of land for food cropping, or if you were a stranger, to rent a piece of land.

But this is now changing, and those who do not get enough family land find increasing difficulties in getting additional land. This is because land has become a very valuable

commodity and the owners are afraid of losing the land to those who borrow it. An additional factor is the decreasing quality of the land used for food cropping. The owners therefore want to save their land resources for their own use. Older farmers now describe how, for example, the cassava 50 years ago, gave 6-7 times higher output than today. Then the cocoa came and took all the most fertile forest land. Since then, they have been shifting cultivation with food crops on the less fertile land, and they have been destroying many of the big trees which protected the fertility of the soil. The result is being felt now in the decreasing output in food farming.

Another problem is that those who want to go into farming on a larger scale, will find it almost impossible to get one piece of land big enough in the same place. The land tenure system is very complex, and creates a lot of problems. Therefore, land litigations are numerous and cost both a lot of time and a lot of money to the Alawo people.

More than 90 per cent of the households have at least one member farming. But only 25 per cent of the men and 33 per cent of the women are engaged purely in farming and marketing of their own crops. Another 33 per cent of the men and 25 per cent of the women combine farming with other occupations. (Twenty-three per cent of the men take wage-labour jobs in addition to farming.) Only 10 per cent of the men are purely wage earners. Only a little more than one third of the women petty-traders are solely traders, the rest are also farmers (see Table 7).

The average size of farms in use is 4.4 acres for men and for the women 1.0 acre. Fifty-three per cent of the men use less than 5 acres, 88 per cent of the women use less than 8 acres. Ninety-one per cent of the women use less than 2 acres, and 99 per cent use less than 5 acres. The distribution of farm sizes is shown in Table 8.

Fifty-four per cent of the male farmers grow cocoa, and the average size of the cocoa farms is 3.2 acres. Two thirds of the male farmers regard farming as their main occupation, and 75 per cent of these farmers grow cocoa on holdings of

Table 7

OCCUPATION OF ADULTS AGED 15 AND OVER, BY SEX, ALAWO, 1976/77

	Men	Women
	per cent	
Farming, and selling own crops only	25	33
Farming, and trading own and other products	0	15
Farming, processing and selling food	0	7
Farming combined with wage labour	23	3
Farming combined with artisan's work 1/	8	2
All who engage in farming	56	60
Retail trading only	0	8
Wage labour only	10	3
Apprentices, students	22	9
Pensioners, home workers, unemployed, sick	12	20 2/
TOTAL	100	100

1/ The category 'craftsmen' covers different kinds of artisans. Many of the men have learned a skill but not all of them use it regularly. In the household survey 23 per cent of the men mentioned a skill. But, except for one electrician, all of them were also farmers. Thirty-nine men out of 173 mentioned a skill: seven masons, two sawyers, two carpenters, one drum-carver, three blacksmiths, two painters, one electrician, four brick-layers, one ironpot-maker, five fitters/mechanics, six herbalists, two tailors, one weaver, one mattress-

(continued next page)

4.2 acres on average. Their total average farm size is 8.9 acres. Only 10 per cent of the female farmers have cocoa farms and the average size is one acre. Only a few per cent of the male farmers grow hybrid maize and only a few use fertilizer. 1/

1/ The use by local farmers of hybrid maize and fertilizer has been discussed in my own evaluation of a local development scheme: Jette Bukh, "Awudome Rural Development Programme", Institute of Adult Education's Series of Monographs, No. 5, Legon 1973.

(Footnotes continued from previous page)
maker and one photographer. Out of 248 women, only seven mention a skill, that is three pottery-makers and four seamstresses. The number of skills in non-farming occupations has been proposed as an indicator of development by Ewusi and others, in the sense of the more non-farm employment the better. But in the context of Alawo, at any rate, the number of adults in non-farming occupations tells more about the degree of urbanization and specialization than about real development. The productive capacity of the rural areas is still to be found in the agricultural sector, and an increase in the number of farmers could therefore be seen as a sign of development, just as an increase in the number of people engaged in agro-industries could indicate development. Development of privately owned industries could, on the other hand, also work towards greater inequality in the community and not necessarily raise the local level of living for the majority of the people. An example is the sugar cane farm, which is a private cooperative employing 23 workers at 1.50¢ a day, at a time when the national minimum wage is 2.00¢.

2/ This category covers women with small children and many young girls, between 15 and 18, who have left school and do the housework in their mother's household.

Table 8

FARM SIZES OF MALE AND FEMALE FARMERS IN ALAWO

Farm size acreages	Male farmers No.	Male farmers %	Female farmers No.	Female farmers %
1.0	74	16.5	245	67.7
1.0 - 1.9	100	22.3	84	23.3
2.0 - 2.9	63	14.0	19	5.3
3.0 - 3.9	50	11.1	6	1.7
4.0 - 4.9	29	6.5	2	0.6
5.0 - 7.9	77	17.1	2	0.6
8.0 -11.9	30	6.7	0	0
12.0 -19.9	21	4.7	3	0.8
20.0	5	1.1	0	0
Total	449	100.0	361	100.0

Source: Farmer survey 1973, registration of all who had their own farms

There are three main groups of male farmers: (i) The ones with very small holdings: often very young men or very old men who either have just started farming or are getting too old to farm; (ii) Male farmers farming between one and eight acres, the actual size depending on what kind of land is used and the size of the household. Their food farms are bigger than their cocoa farms; (iii) Male farmers farming more than eight acres. Only little more than ten per cent are doing so, and it is mostly older farmers who have accumulated cocoa farms through their lifetime. Therefore, their cocoa farms are now bigger than their food farms. Some of them grow their own cocoa outside Alawo, e.g. in the northern part of Volta region, and then often have tenants to look after it.

The women have small food farms of their own, but they also do a major share of the work on the men's food farms. It is also the women's work to care for the food handling, that is processing of crops, preparation of the food in the house and the marketing of the products. The women's share of the farm work depends on whether there is a male in the household, and whether the males who are there are involved

in other activities, e.g. cocoa farming or non-farming activities. The more men are involved in other activities, the more the production of food is left to the women.

If the three mentioned types of male farmers also represent three different types of households, then there is a fourth type to add. It is the women-headed households which, as mentioned, make up 42 per cent of the households in the town. In these households, the women are alone with the day-to-day responsibility for getting food to the house, and they do so most often with very little help from outside. Some of the younger women who have a husband working elsewhere receive a little money every month. But all those women who are either unmarried, divorced or widowed, that is 48 per cent of the women, will have to manage for themselves and their children. The older ones usually get little support from grown-up children nor do the younger ones from the parents.

The female householders not only have less money to buy the proteins that they cannot produce themselves, but they also use the less fertile land and produce crops of lower nutritional value. As they choose land that does not require much labour for clearing, they also have to choose a crop that does not demand high labour input compared to the output of starch. That crop is cassava, and cassava is the crop with the lowest nutritional value of all the starch crops. Cassava is not easily intercropped with legumes or vegetables either, which otherwise could supply extra proteins in the diet.

Conclusions

The town represents that part of the rural areas whose main contribution to the national economy has been the production of educated labour to the non-agricultural sector. The town saw some economic development in the 1920s and 1930s when cocoa was introduced. The cocoa money has been invested in the children's education and in housing, but not in productive development of the agricultural sector.

Since the 1950s, the profitability of cocoa has gone down to less than one third. Moreover, in this area the

cocoa has been very badly damaged in recent years by drought and disease. At the same time, many of the educated young have left the town, and those staying behind have had to feed an increasing number of children, the old and the sick on less fertile land with fewer hands but the same traditional farming methods to do so. Altogether, the result has been increased rural poverty.

The development efforts of the different state agencies have been uncoordinated, ineffective and insufficient. The results of these efforts have not amounted to real development, and the situation during the last ten years has gradually worsened in terms of productive capacity and levels of living of those people who live there permanently.

The few development projects launched in the area have not been very successful. One example is the small maize loan scheme, where only four farmers from Alawo participated. The farmers were not satisfied with the deal, and moreover the Technical Officer now claims that they have not paid back what they were supposed to, so no more loans will be given to them. Another example is the recent attempt to introduce crop associations. These associations were meant to channel the development efforts of the State Extension Service. But the local Technical Officer has been so ineffective in spreading the message to the farmers that now, a year after the idea was launched, still no association is working as planned. Also, the Adult College has tried for four years to run a small development scheme, but in scale and effectiveness the results have been so small that they are hard even to find.1/

The farmers have had so many disappointments with the extension service that they do not expect much help to come from that side. But they still cannot entirely help themselves. While it is a precondition for change that they organize themselves, this would not be enough, and the State will have to support their efforts. The farmers will have to get together in a cooperative and decide to farm in the same place so that one tractor can plough many times more than

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1/ Jette Bukh, op. cit.

is possible when it has to cover long distances between the present small individual plots. Moreover, they should organize common transport to get their products to a market with ample customers.

But these things involve problems which they need help to solve. The first is how to get a big enough piece of land in the same place under the existing land tenure system. It might be necessary through legislative changes to free access to the land. The next problem is how to get a loan to buy the necessary equipment and to cover expenses until the first harvest is sold. It is common knowledge that the money the Government has allocated for the Agricultural Development Bank never reaches the small farmers, because they have no 'relations' with the top bureaucracy. Most loans go to the so-called 'absentee' farmers, who are often higher civil servants and military people.

Ewusi has given a clear description of the way in which things have developed:

> "A situation has been created whereby the wealth of the rural sector is siphoned off to develop the urban centres. This is explained by the fact that the set-up of political and governmental institutions tend to work to serve the interests of the few who possess in greater abundance, income, status, education and consequently authority or power. The consequences are convergent and cumulative making for perpetuation of low productivity and low incomes for the large majority of the people in the rural areas. Government allocations under various guises transfer income from the poor to the rich rather than vice versa in spite of active state intervention in the economy since the 1960's." 1/

1/ Kodwo Ewusi, op. cit.

List of proposed indicators

Note that certain possible indicators have not been included in the list, because in present conditions in Alawo, the level of attainment is considered sufficiently high. For example, the postal service is an important factor in communications and, in respect of educational material coming through the post, in education. As described above, the postal service is presently fully developed and working as well as can be expected in the circumstances. No immediate improvement in the postal service is therefore envisaged and no indicator has been listed. However, an indicator relating to the postal service may become relevant if the present service deteriorates or if there is a significant rise in the level of what may be expected from the service.

Transport and Communications

1. Buses: actual as a percentage of scheduled runs over a specified period (3) 1/
2. Establishment of a government transport bus line to Accra originating and terminating in Alawo (2)
3. Number of private means of transport (separately cars, motorbikes, mobilettes and bicycles) (2)

Housing and Associated Facilities

1. Percentage of houses with facilities for collecting rainwater (2 or 4)
2. Percentage of houses with separate kitchen building, roofed and walled sufficiently to keep the rain out (4)
3. Room occupancy rate (4)

1/ Numbers in brackets refer to the sources of data, as listed on the final page. Note also that 'flow' indicators referring to a specific period of time, will eventually require specification of the actual period for which data are collected.

4. Number of public waterpipe stands in relation to inhabitants (3 and 5)

5. Percentage of houses with private water connections (3)

6. Capacity of the piped water system: size of tanks, capacity of pipes (litres per hour) related to number of inhabitants (1e and 5)

7. Number of hours per year the water actually runs in the pipes (3)

8. Number of houses keeping separate covered container (pot) for drinking water (4)

9. The cost of water (1e)

10. Percentage of houses with own toilet (buckets and water closets) (2)

11. Number of public toilets in use (separately, pits and buckets) related to number of houses without own toilet (2)

12. Is there a public electricity supply in the town (2)

13. Percentage of private houses with own generators or connection to public electricity supply (2 and 3)

Health and Nutrition

1. Having a doctor permanently at the clinic (2)

2. Improved supply of drugs at the clinic (to be specified) (1c)

3. Number of midwives trained and untrained (in relation to number of births) (2)

4. Number of patients from Alawo treated at the clinic for (separately) tuberculosis, hook-worm and kwashiorkor(1c)

5. Number of children who have died from measles (3)

6. Number of women who have experienced natural abortions (by age) (1c)

7. Mortality rate of children 13-36 months old (3)

8. Average age at death (3)

9. Percentage vaccinated against smallpox, tetanus, measles, TB and typhoid by age group (4)

10. Percentage of pregnant women who have attended an ante-natal clinic at least once (1c and 4)

11. Percentage of small children (of specified age) who are underweight, compared with standard weights (1c and 2)

12. Percentage of toddlers (12-72 months) having an upper arm circumference below a specified minimum (1c and 4)

13. Percentage of households spending less than ... (decided minimum) on fish or meat per reference person per week (4)

14. Percentage of households harvesting immature cassava because of lack of food (4)

15. Availability of free contraceptives (2)

16. Access to legal abortion (2)

Education

1. School enrolment by sex and age (1b, 4 and 5)

2. Teacher/class ratio (1b)

3. Percentage of teachers trained (1b)

4. Mean size of classes in primary, middle and secondary schools (1b)

5. Incidences of more than one class being taught in the same room (1b)

6. Availability of chairs and tables in the classroom (1b)

7. Availability of free text-books, stationery and pens for the pupils (1b)

8. Percentage of pupils who attempted and those who passed the common entrance examination (1b)

9. Adult literacy in English and vernacular (4)

10. Percentage understanding English by sex and age (4)

Background Data

1. Total population (4 and 5)
2. Age and sex distribution (calculate child dependency ratios and age specific sex ratios) (4 and 5)
3. Percentage of women headed households (4 and 5)
4. Percentage of households where no adult male lives permanently (4 and 5)
5. Median age of women at first birth (1 and 4)
6. Percentage of households where at least one member is farming (4)
7. Average age of farmers by sex (4)
8. Percentage of households farming less than two acres (4)
9. Percentage of male farmers/female farmers presently using fertilizer and hybrid maize (4)
10. Percentage of households possessing specified specialized tools (4)
11. Availability of labour in the peak seasons (1a)
12. Rent paid by strangers for use of land (4)
13. Improvements in the legal conditions governing women's access to land (1a and 4)
14. Availability of marketing channels for cash crops (buying agency or regular and reliable lorry transport facilities to markets with ample number of customers) (2)
15. Availability of locally improved inputs like fertilizer, improved seeds and seedlings, and chemicals for storage. Possibility of buying in small quantities (1d)
16. Number of tractors in good repair for renting in the planting season, at reasonable price (1d and 2)
17. Number of active blacksmiths (2)
18. Number of publicly accessible motor driven mills (2)
19. Renovation of the old market place, or establishment

of a new and better one, with sufficient shelter (2)

20. Establishment of a well stocked GNTC in Alawo (2)

Possible sources of information

1. Key person interviews

   (a) selected farmers
   (b) school teachers
   (c) clinic staff
   (d) agricultural extension officers
   (e) water and sewerage officers
   (f) regional council officers

2. Local investigator asked to collect certain information which is easily observable or to keep records of such information (but excluding systematic household interviews)

3. Centrally maintained registers (such as registers of births and deaths, bus company records, registers in connection with water and sewerage)

4. Household surveys, including surveys of special households (such as the poorest households, households headed by women, by strangers or by very small farmers)

5. National population census.

Measurement of Real Progress at the Local Level: A Contribution towards Planning Social and Economic Development in India

by

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CONTENTS

PREFACE

The study of the problem of measuring social and economic progress in India reported in this document is part of an international research programme, sponsored by the United Nations Research Institute for Social Development, in which research bodies in several countries in Asia, Africa and Latin America are participating. I got acquainted with this work at a workshop organized by UNRISD from 17 to 19 October 1973. A little later I accepted an invitation to undertake a survey of the material and methods available at present - and necessary in future - for measuring progress in India. This had to be done within a period of eleven weeks after my relinquishing the post of Director of the Central Statistical Organization, Government of India, late in November 1973 and before taking up an assignment in Malaysia at the end of February 1974.

The time available was extremely short for carrying out this work. A large quantity of statistical and other material had to be examined and the views of a number of experts had to be ascertained. Some travelling in India was necessary to meet planners in the States and experts outside Delhi. The facilities provided by the Central Statistical Organization, and by the State Statistical Bureaux, and the hearty cooperation and assistance of my former colleagues made the task easier. I am thankful to all of them and to the many experts who gave liberally their time and knowledge.

Full use has been made of several documents of the United Nations Research Institute for Social Development. Particular mention may be made of the ideas and suggestions contained (a) "Measurement of Real Progress at the Local Level", August 1973, (b) "Examples from the literature and a pilot study", 1973 and (c) "Research design for country case studies", 1973. The discussion based on these documents at the workshop in October 1973 mentioned above was of great help in clarifying ideas. A short version of this document was discussed at a meeting of the Indian Econometric

Society at Ahmedabad on 12 January 1974. There were also several useful discussions with other groups and individual sociologists, economists, statisticians, planners and administrators. There was general agreement on the importance of the type of measurement system suggested here.

In the preparation of this document very valuable help was given by Mr. Wolf Scott of the United Nations Research Institute for Social Development with whom I worked in close collaboration during my stay in Geneva from 20 January to 11 February 1974.

SECTION I

INTRODUCTION

The need for local level measurement

In the poorer countries of the world organized efforts to increase economic and social well-being have been going on during the past few decades. Measurements of results have generally been in global terms by means of indicators such as the GNP and average expectation of life. While these indicators are of undoubted value to planners and policy makers at the national level they may not be equally relevant to life in the villages, communities or other segments of the population. For instance, it is possible for the GNP to increase if part of the rural population migrates to the industrial towns and earns higher wages than in the villages. This need not however lead to an increase in the average income either in the towns or in the villages. While a lowering of the pupil-teacher ratio might appear to signify improvements in the quality of education at the global level, in some localities this may really be due to greater indifference to education and fewer pupils at school, possibly caused in part by the low quality of education.

Also national indicators do not usually reveal distribution. A high national infant mortality rate can be due either to generally poor health conditions in the country or to pockets of very bad health. Further, it may not be possible from national indicators to study interrelationships of social and economic factors (e.g., health and production or education and income) because the relationship may differ from one locality to another.

Progress or merely change?

The question whether it is possible to measure 'progress' has often been debated. Some social scientists take the view that there is no such thing as progress, that there can only be social and economic change. The basis of this argument is the subjective nature of the concept of progress. Abun-

dance of the good things of life may be regarded as progress by some people while others may prefer plain living and high thinking. Industrialization may be progress from one point of view, but this may also lead to evil results in damaging the environment. When the hungry are fed, and the poor are clothed and provided shelter, this will be considered progress by most people. However, there are some people who question even this. How do we know that better nutrition and clothing and shelter are good for people? After all, in India there are still millions of people whose deliberately chosen goal is to do with as little as possible of these physical necessities of life. The point behind all these questionings seems to be that the concept of progress depends on the man who writes or talks about it. In this document we may be putting forward only our personal views that for the majority of people in India who are socially and economically poor, increase in supply of certain goods, services and facilities represents progress and not merely change. Among the many people with whom this subject was discussed, hardly one or two denied the possibility of establishing widely acceptable norms for measuring progress. The country after all is dedicated to the related goal of 'development'. Difficult problems in the choice and definition of indicators of progress will however remain. These will have to be tackled by some kind of 'evolutionary' method, starting with a more or less arbitrary but reasonable list of indicators and making changes in this list in the course of time as and when experience in production and use suggest improvements.

Cost of the project

The resources needed for gathering the data especially when field work has to be done will be quite considerable (see Section 3, below). However, they will be only a small fraction of the resources that are now devoted to statistical work in India and an almost negligible part of the total development budget. These comparisons are not irrelevant as the purpose of the progress monitoring system outlined in this paper is to enable the planners and administrators to discover whether development efforts are in fact followed by amelioration in conditions of life.

Real progress

The word 'real' is used in the title to distinguish between progress measured in monetary terms and progress as indicated by physical achievements and also to distinguish between the building up of facilities like hospitals and community centres in certain conditions on the one hand and the improvement of the level of living on the other. However, while the main focus will be on 'real' progress in this sense, a number of related variables will have to be included in the system because of their direct interest to planners and also because these variables may be relevant for the analysis of interrelationships.

Programme evaluation

The distinction between the type of progress monitoring proposed in this document and the 'programme evaluation' in India and other countries 1/ may be noted. Evaluation is generally related to specified projects such as schemes for the spread of high-yielding varieties of wheat, or for the popularization of family planning practices. To do programme evaluation systematically designed collection of data in the project areas as well as in appropriate control areas will be required. A great deal of operational data relating to the execution of the projects will also be required to probe into the reasons for successes and failures and to suggest improvements in future operations. Progress monitoring on the other hand need not be related to individual projects. Progress can come about even in areas not covered by any specific project.

Inadequacy of available data

There is a general impression, especially in other countries, that India already has a well developed statistical system that can meet the requirements for planning.

1/ See "Reporting and evaluation of development progress at the national level", Economic Commission for Africa, E/CN.14/CAP.4/5 dated 2 August 1972.

It is assumed that by more effective utilization of information available from administrative records, village surveys, census publications, national sample survey reports, etc. the collection of new series of data for measurement of progress could be avoided. Those who know the inside story are, however, keenly aware of the big gaps and a quality deficiency in the statistical basis of even global aggregates such as those required for national accounts. From a study of existing sources, it appears that while some figures on population or area of land or prices may be available, fresh field work in selected localities will be required for most of the indicators proposed in Section 5. 1/ The National Sample Surveys provide information only at the national and macro-regional levels. Thousands of village surveys have been conducted over the past two or three decades by government agencies, academic institutions and individual research workers. A sample of these were examined for the present study. By and large these surveys are the work of amateurs who have not had any systematic training or long experience of the problems of data collection. Most often there is no clear definition of the concepts used and these vary from one survey to another. Even the few resurveys that have been conducted do not allow, because of varying time intervals, comparison of the situation at one point of time with that of another. It is, therefore, not surprising that practically no use has so far been made by planners and decision-makers of all this village survey material produced at considerable cost. Such of the reports as have not disappeared altogether are gathering dust in the archives of government departments and other institutions. There is a strong case for coordination by a central agency if such work is to be continued in the future. Such an agency should not only take care of the design of the surveys and the concepts and definitions used but should also arrange for the systematic analysis and presentation of results in a readily usable form to the right desk in the decision-making system. Much the same considerations would apply to data on urban areas also.

1/ Data sources are considered further in Section 2 where possibilities of utilization are explored.

Development objectives

Measurement of progress should be related to development objectives. It is difficult to find a single comprehensive and authoritative statement of all the goals which development planners in India have set for the country. One has to gather this from the various plan documents and other papers. The draft Fifth Five Year Plan published in December 1973 states in Chapter 2 that "removal of poverty and attainment of self-reliance are the two major objectives that the country has set out to accomplish in the fifth plan. 1/ As necessary corollaries, they require higher growth, better distribution of incomes and a very significant step up in the domestic rate of saving". At the local level 'removal of poverty' and 'better distribution' would be the components of progress for which measurement may be attempted. 'Self-reliance' is in this context a national level concept, although the localities can contribute their share by increasing the output of agriculture and improving efficiency of operations.

Some objectives mentioned in earlier plan documents or in the Constitution of India are: securing to everyone an adequate means of livelihood and the right to work and to education; also prevention of rise in prices, prevention of shortage of raw materials and essential consumer goods, reduction of inequalities of income and wealth and a more even distribution of economic power, rise in national income, self-sufficiency in food grains, fullest possible manpower utilization, equality of opportunity, promotion of family planning, etc.

Removal of poverty can be viewed in relation to food, clothing, housing, health, education, communications, transport and other facilities as well as social inequalities, disabilities and other forms of injustice. We have tried to suggest indicators for these elements of the removal of poverty.

1/ Government of India, Planning Commission, *Draft Fifth Five Year Plan 1974-79*, Part I, p.15, paragraph 2.1.

It must be noted that planners at the national headquarters are concerned with big projects for steel, fertilizers, power, irrigation, transport, etc., and other matters of national importance like unemployment, export promotion of foreign aid, and may be interested in individual localities somewhat remotely. It is the planners at the State and district levels who will be more directly concerned with local progress.

It is also possible, though this has not been investigated in the field, that progress as viewed by the local people themselves might differ from the idea of progress which the planners and administrators have. For instance, for the local people the establishment of a school or railway station in their own locality will be progress, whereas the planner and administrator may have considerations of economy and efficiency which might dictate a different location for these facilities.

A list of indicators of progress similar to List A in Section 5 was discussed with members of the planning bodies at the Centre and in the States during December 1973 and January 1974. From these discussions it was possible to infer that the objectives covered by the indicators were considered important by the planners. In addition to the measurement of progress the planners considered it essential to study interrelationships among these indicators and also between the indicators and other social and economic variables.

SECTION 2

PRESENT REPORTING AND SOURCES OF DATA

Reporting by committees

There are several ways in which reports on progress in social and economic conditions can be obtained. One approach which in India has a long history is to appoint a committee of eminent persons who examine in a fairly leisurely way whatever material is available or can be easily collected and analyzed, call upon knowledgeable people to give evidence and then deliberate on all this information and produce a report. One such committee with P.C. Mahalanobis as Chairman was appointed on 13 October 1960 to report, among other things, on 'the changes in levels of living during the first and second five year plans'. This committee took nearly nine years to complete its work and submitted its final report on 25 July 1969. In Part II, Chapter 2, of this report, progress in consumption of goods and services, education, health, transport and communication, cultural amenities, employment, scientific research, welfare of scheduled tribes, the rural population and housing conditions was dealt with at the global level. The finding was that substantial progress had been achieved during the period 1950-61 in many respects. There have been many other committees and commissions which, in a similar way, have reviewed progress in particular sectors like agriculture, labour, cottage industries, health, education and so on. Such a commission, if asked to study 'local level progress', should be able to produce a comprehensive report if one is not particular about the time it will take.

The journalistic approach

Another effective way of placing before professional people as well as the lay public a quick assessment of changes taking place in the condition of life of the people is to persuade a competent journalist to travel and observe life at first hand. Reports of such persons, though not based on scientific measurements, are usually much more readable

than the works of statisticians. Provided the impressions are not unduly exaggerated or biased, the effect on public opinion may be quite beneficial. This will be a good way of reporting on one time events like building a bridge where there was none before, and also on intangible variables like sanitary conditions in the village, cleanliness of the people, their hopes and aspirations, and quality of local leadership. Such reports can also take note of corruption in the administrative organization, red tapism and other factors supposed to be retarding progress. This approach, however, is too subjective and may not be acceptable as a basis for scientific analysis, planning or decision-making. Examples of such work can be found in a number of publications, e.g. by Kusum Nair 1/, B.G. Verghese 2/, and A.J. Fonseca. 3/

Village surveys

Another approach very much prevalent in India is of village surveys. These surveys are generally conducted by one or two investigators who spend a few months either staying in the village or visiting it regularly. Supervision and guidance is provided by a government agency, university department or research centre. During the last three or four decades thousands of such village surveys must have been carried out. One large series of such surveys is reported in the 'village monographs' produced by the Registrar General's Office as part of the 1961 Census of India. In all some 500 villages were covered in different parts of the country of which 75 were proposed to be resurveyed in 1971. The Agro-Economic Research Centres have conducted 670 surveys during the period 1954 to 1973. Some villages have been resurveyed after a period of years. Even in these cases the dates of

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1/ Kusum Nair, *Blossoms in the dust: the human element in Indian development*, Gerald Duckworth and Co. Ltd., London, 1961.

2/ B.G. Verghese, *Design for tomorrow: emerging contours of India's development*, Times of India Publication, 1965.

3/ A.J. Fonseca, *Challenge of poverty in India*, Vikas, Delhi, 1971.

resurvey as well as the dates of the first survey vary from village to village which makes it difficult to attempt comparisons for the country as a whole between two periods of time. Added to this is the difficulty, discussed below, that the village is not a large enough unit to provide stability for many of the statistical time series required.

As mentioned above, a sample of these village survey reports has been examined to find out whether they can be a basis for progress monitoring, and the general conclusion is that the surveys may not be of much use for this purpose. In spite of the great amount of labour and expense that has gone into these surveys, the results do not appear to have been made use of by planners or policy-makers or administrators. The work is uncoordinated and there is no central place where the results are interpreted and presented to the right persons in a form in which they can be used.

Strictly speaking, the data provided by these village surveys are representative only of the places actually covered. They do not constitute probability samples from which inferences applicable to a wider domain can be drawn. Quite often, however, the surveyors have as their objective general conclusions about conditions in the country or large regions and about changes in the socioeconomic situation. For instance, a recent series of village surveys, carried out by the Anthropological Survey of India 1/, is explicitly concerned with 'socioeconomic changes among weaker sections of the Indian population since independence'. The field work in this project covers 22 villages in 13 states.

The National Sample Survey

A very large number of sample surveys are now carried out in India every year by different government and other agencies. A list of such surveys, together with short abstracts compiled and published every year by the Central Statistical Organization, occupies a bulky volume. Large-scale sample surveys developed in India during the thirties of this century to deal with the estimation of crop production and later spread to industry, labour, household budgets,

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1/ See newsletter of the Anthropological Survey of India, Vol. I, No. 3, July/August 1972.

social conditions, etc. The best known example is the National Sample Survey which came into existence in 1950. At present a random sample of households from about 20,000 villages are visited every year by a field staff of more than 3,000 investigators for various aspects of the NSS. The topics covered include area and yield of crops, animal husbandry, industrial statistics in the registered as well as unregistered sectors, labour and employment, construction, family budgets and consumer expenditure, family planning, demographic statistics, housing, land-holdings and land utilization, morbidity, prices and wages, trade, transport, etc. and also an item of special interest to local progress reporting called 'village statistics'. These village statistics cover a large variety of particulars each of which has reference to the village as a whole as distinct from households and individuals. In 1971-72 (the twenty-sixth round of the NSS) the village statistics schedule provided for some 200 pieces of information covering housing, distances from various offices, existence of facilities, demographic particulars, financial institutions, industry, farming practices, animal husbandry, marketing and storage facilities.

As the NSS is organized in annual surveys called 'rounds', it can provide time series for many of the items surveyed. Consumer expenditure, for instance, and price data have been part of all the 28 rounds of the survey completed so far. Village statistics were surveyed in rounds 2, 4, 6, 7, 10, 12, 13, 14, 18 and 26 (for 1951 to 1972 with varying lengths of gaps).

The main drawback of the NSS from the point of view of measurements at the local level is that the sample villages are different each year making it impossible to make local comparisons over time. In fact, the NSS aims only to produce estimates for the country as a whole and for the major states. There are plans to increase the sample size so as to provide breakdowns for 65 regions each of which will consist of a group of districts with about nine million people. To produce estimates for districts or smaller units the sample required will become prohibitively costly.

The NSS village statistics can be used to throw light on the distribution of villages (or of localities consisting of several villages if in future the NSS can be persuaded to modify its design) according to the availability of various services and facilities. A great deal of 'local information at the national level' can be produced in this way to supplement the local level data to be collected by the observatories proposed in Section 3 below.

The decennial census

The decennial census is another important source of data on population, structure of the household, literacy, occupation, housing, industry etc. and also on social and economic conditions in certain selected areas and groups of people. As complete enumeration of every household is done, it should be possible to compile data for localities of any desired size. Only a limited number of indicators could be based on the census and these have to be slow-changing variables for which measurements at intervals of ten years should suffice.

Administrative records

One source of statistical data on which in India very often too much reliance is placed is administrative records. These records cover for example each village and each one of the thousand million pieces of land for which there is a legally recognized owner. Every season the crops grown on these pieces of land are observed and entered in standard registers. Irrigated land is distinguished in these records from unirrigated. Yield rates of crops are determined and noted. Ownership rights are given special attention. Many other useful particulars find a place in the land records. There are records of all the houses in the cities and of new houses built. Every birth and death throughout the country has to be registered. For school enrolments very detailed forms are filled up which try to ensure that no school-going child is left out. Registers in hospitals have a place for each case of admission and each out-patient with all relevant particulars. Administrative records extend to transport, communications, news-

papers and every field of public activity. If all these records were reliable, many of the statistics required for progress reporting could have been compiled without fresh collection of data. However, there is evidence of serious deficiencies in the quality of land records, crop acreage and yield, educational statistics, records of births and deaths, etc. which make them useless for socioeconomic measurements. It is worth noting that for certain administrative purposes, accuracy is less important than 'authoritativeness'. For instance, in delimiting parliamentary constituencies, no great harm to the nation will result even if population figures contain a large component of error, so long as these figures are accepted by all concerned. If one state is allotted 23 seats in parliament instead of 20 due to a 15 per cent error in the statistics, the quality of laws enacted may not change. If, however, the possibility of inaccuracy is officially accepted or even investigated this may result in serious political trouble. On the other hand, a margin of error of the same order can distort interstate comparison of the percentage of literate or per capita availability of food grains. Errors come about due to failures of the primary human agencies, inadequate supervision and the lack of resources commensurate with the volume and complexity of the task. A full discussion of the quality of administrative data will take up too much space and is not necessary for the present purpose.

Need for new data

From the above survey of sources the main conclusion that emerges is that the bulk of the data required for progress measurement at the local level will have to be collected specially for the purpose. To the extent possible, existing stocks of data as well as data currently flowing in would be availed of after making sure of their quality. For the rest, the chief source and method will be interviews with a sample of households in the locality along the lines proposed in the following section. The number of households to be interviewed in each locality will depend on the number of groups (e.g. scheduled castes or the landless) for which separate reports have to be produced. A minimum of 200 households may be necessary to build up

reports with reasonable precision even in a fairly homogeneous locality. It must be remembered in this connection that apart from averages or percentages required for the indicators, the variation among households will itself be a matter of importance for progress monitoring.

SECTION 3

A SYSTEM OF PROGRESS MONITORING IN INDIA

Monitoring at present

Planners and administrators in India have been making use of quantitative data generally at the national and macro-regional levels comprising national or regional aggregates, but interest has been growing in problems of distribution and participation in development. Moreover, the demand for multi-level planning and for 'planning from below' has been increasing over the years. Planning Boards have been set up in most States and arrangements for preparing development plans, even for the districts (350 of them with average population of about 1.7 million), are being made. There are statistical officers in each district who compile data for the district as a whole and its subdivisions on population, agricultural and industrial production, prices, school enrolment, health, etc. Satisfactory measurements on the level of living of the people, however, are not available for districts or smaller units. As already mentioned, the National Sample Survey with its present sample size cannot provide estimates for districts, let alone smaller areas.

In addition to macro-level indicators, the planning authorities have a system for monitoring progress in the execution of large projects like the construction of dams, hydro-electric schemes, irrigation networks, industrial plants etc. There is also the Programme Evaluation Organization which has a trained and experienced field agency for studying the impact of development programmes such as those for spreading the use of high-yielding varieties of crops, or the popularization of family planning practices. For the monitoring of project implementation as well as for evaluation of impact, specially designed data tailored to fit the requirements of each project will have to be collected. General indicators of the type proposed in this document will not be relevant or adequate.

Socioeconomic observatories

The distinction between measurements at the local level and measurements in current use at the national level has been referred to in the introduction. The same changes in an indicator may have a meaning at the local level different from the meaning in national level indicators. Also local level data can facilitate the study of distribution, which may not be possible from national level indicators. In the system proposed here a certain number of localities are to be selected from each State to represent, as far as possible, the major differences in natural endowments and socioeconomic conditions in each State. The considerations which determine the size of these localities are set forth in Section 4. There it is suggested that an area with about 10,000 inhabitants and on average about 10 to 15 villages may be the optimum choice for a locality in most parts of the country. In the administrative hierarchy these localities can be identified with the Village Level Workers' area of responsibility.

The present proposal is that between 100 and 200 out of the 45,000 or so possible localities in the rural areas of the country be chosen with a view to the establishment of a socioeconomic observatory (SEO) in each locality. The determination of localities for the urban areas could not be studied in the present project due to shortage of time. It is considered that five localities (50 to 75 villages) per State should permit an answer to the question whether significant progress is being achieved or not in the levels of living of the local population. However, if resources can be made available for 10 localities or more per State, deeper analysis of the interrelations of factors and the conditions stimulating or retarding progress would be possible. Each of these observatories should be manned by two whole-time observers who would be responsible for all the primary data gathering. There would have to be supervisory units at the level of the States each looking after the work of the five to ten observatories in the State. It would be advantageous to have some statistical and analytical capability also at the State level unless it is decided that all compilation and analysis should be done in one central office from which

results can go to all users at different levels. Another alternative would be for the observatories to send copies of their primary schedules to the State as well as central offices, the former doing the immediate analysis for quick reports and the latter being concerned with more detailed work on interrelationships of factors and on methodological problems. Some interviews with individuals in schools, health centres, shops, factories, cooperative societies and other institutions and enterprises may also be necessary.

Auxiliary data

In addition to the data to be directly used in the production of indicators, all relevant auxiliary variables on background conditions and factors likely to affect progress, as referred to in Section 5, would also have to be observed and recorded. Depending on the time and resources available, the programme of work for the observatories could include surveys of interest to various governmental agencies, and to academic research projects. This should enable saving of expenditure on the uncoordinated work that is now going on all over India in the form of village surveys.

The list of factors and conditions given in Section 5 is only illustrative. In fact the list of indicators also can only be illustrative at this stage. After establishment of the SEOs, one of the first things to do would be field trials to determine the indicators relevant to each locality and to select the factors for additional observations. The expert advice of sociologists, economists, planners and statisticians would have to be obtained, possibly by creating a national committee for guiding the system of progress monitoring especially in its early years.

It may be noted that the observatories should continue on a permanent basis though their location may be changed according to a phased programme replacing, say, 20 per cent each year and completing the cycle once in five years. Change is necessary to prevent the selected localities becoming in course of time unrepresentative of the regions which they are to typify. At the same time too frequent changes, as in the NSS, would defeat the objective of building up time series free from the effect of geographical variation.

Operating agency

The question of the agency that should be responsible for operating the system was discussed with several interested people. The best arrangement may be for the Central Statistical Organization (now located in the Ministry of Planning) to assume a coordinating role and also to organize the advisory and analytical work through a special cell for this purpose. The SEOs and supervisory units can be administratively under the State Statistical Bureaux. The National Sample Survey as well as the Programme Evaluation Organization can help in various ways not the least of which would be in providing experienced field workers. Cooperation among the CSO, NSS and PEO should be easy as all three organizations are now in the Ministry of Planning. An alternative suggestion was that the Progress Monitoring System should be located in an autonomous agency like the Indian Council of Social Science Research. This was explored and found not practicable. The ICSSR quite rightly considers that it should not be burdened with routine activities for progress monitoring.

The building up of the proposed system of observatories will have to be spread over a period of three of four years starting with one or two States as a pilot programme. After watching the response of the local populations concerned, after field testing the indicators and improving the forms and instructions for data collection and also after gaining experience in the recruitment and training of staff, the system can be extended to other States in two or three phases. One interesting suggestion that was made in regard to field work was that young sociology graduates coming out of the universities could benefit greatly from a period of duty in the SEOs for three or four years. This idea can be tested out in one or two places.

Coordination with other agencies

To lighten the load of field work of the SEOs, it will be a good thing if the NSS can be persuaded to include 'village statistics' as a regular part of their programme either every year or at regular intervals, of, say, two years. If the work of the Growth Centre Project is expanded to cover

the whole country at least to the extent of demarcating 'micro-regions' of population size 10,000, it may be possible at some time in the future to persuade the NSS to use a list of such localities in their sampling frame instead of depending on the villages which vary in size from almost zero to 15,000. If this happens it may become possible to coordinate further the SEOs work with that of the NSS leading to mutual benefit. Another possibility of economizing labour is in respect of vital statistics. The Registrar General has at present a network of some 4,000 'sample registration villages' spread throughout the country in which special efforts are made to ensure corrections of records. It is quite likely that most of the proposed 100 or 200 SEOs could be chosen to include one of these villages thereby making it possible to use the sample registers as a source of vital statistics. If the Registrar General can be persuaded to adopt 'sample localities' instead of sample villages there will be further economies.

Cost

With five observatories per State and two observers in each there will be a hundred observers for the whole of India. At the present scales of pay and also taking into account non-salary and overhead expenditure a rough estimate of the total cost would be Rs. 2,500,000 per year. With ten observatories per State the cost would be somewhat below Rs. 5,000,000. These figures include the cost of analysis and assume that a brand new organization is to be set up. There may be economies in primary as well as overhead costs if the work is entrusted, as suggested above, to one of the existing agencies like the CSO-SSB, or the PEO. If the system is extended to the urban areas, naturally there will be a corresponding additional cost.

Similar systems in other countries

It is understood that observatories exist at present in France where they are managed by the Central Statistical Office (INSEE) and in Japan where they are agencies of the Central Bank of Japan. The observatories in France serve to disseminate statistical information needed by the public in their respective localities. Perhaps in course of time such a role can also be thought of for SEOs in India.

Central Unit of the system

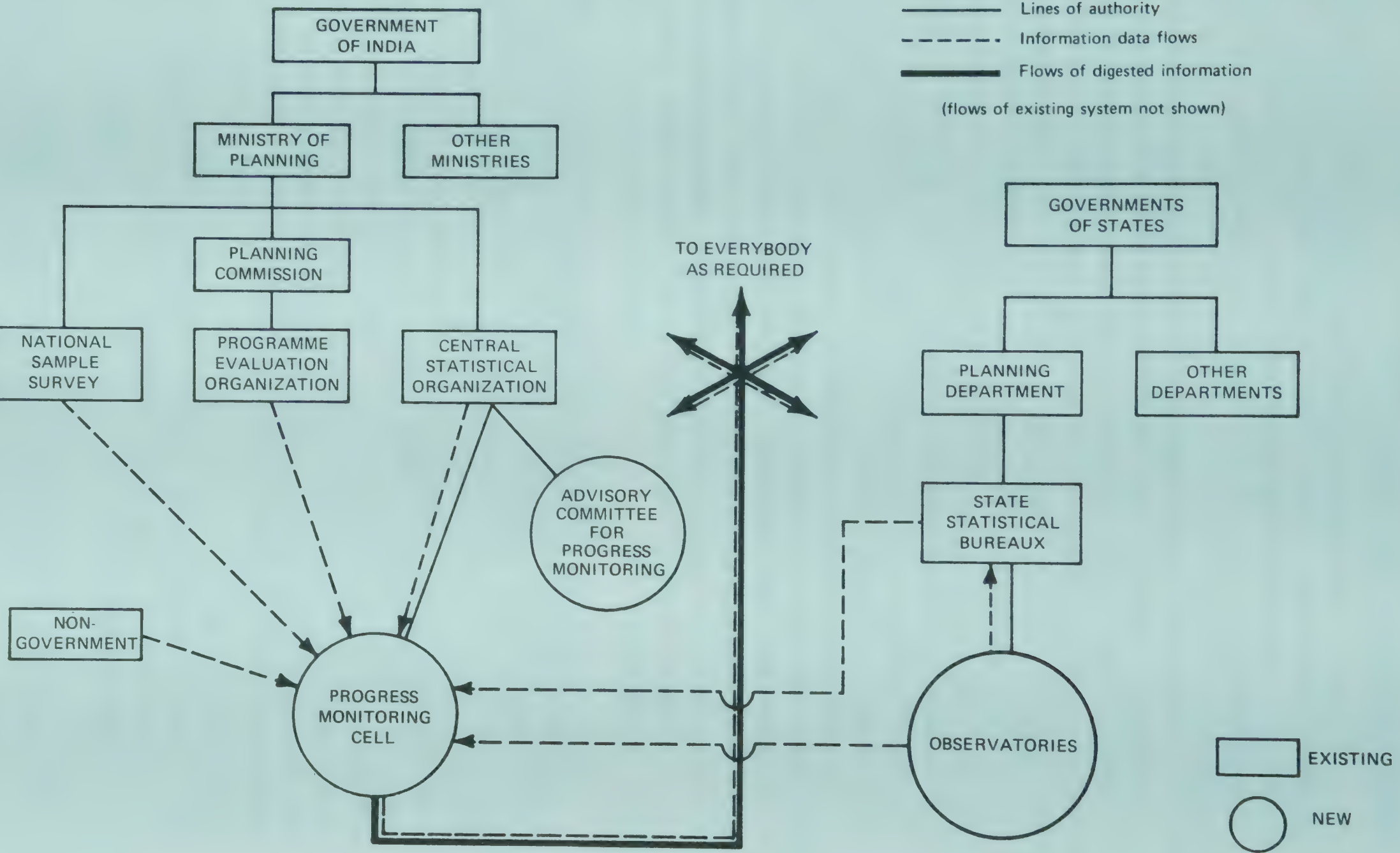
The most important thing to ensure in the proposed progress monitoring system is that it should not degenerate into an agency for producing and publishing masses of statistical data which nobody reads or makes use of. The end product of the system should not be statistics, but analyses and conclusions which busy executives and planners at various levels can make use of. The questions for which these executives or planners are in need of answers will have to be ascertained by personal discussion and the analysis will have to be oriented to produce the answers. In the Central Unit of the system it will therefore be essential to have one or two men with the competence to do this work of finding out customer needs as far in advance as possible. In this connection it may be reiterated that the production of composite indicators either by aggregating over different variables or over different localities is not envisaged in the system. What is required is not higher level indicators but answers to questions at higher levels. This may require analysis based on data extensively broken down. The problem of analysing different outputs to similar inputs in places that are physically similar is mentioned in the extract from the Fifth Five Year Plan quoted below.

The Central Unit should also function as a clearing house for all the local level data now being collected and for selected data collected in the past. A selected index of village surveys should be maintained even if copies of the reports are not brought to one place. It may still be possible by careful analysis to retrieve some useful information from these reports particularly from the point of view of methodology.

Another responsibility of the Central Unit should be to work as the Secretariat of the Advisory Committee in Progress Monitoring on which all concerned agencies and experts would be represented. The interrelationships among different components of the system are suggested in Chart I.

Chart 1

LINES OF AUTHORITY AND MAJOR INFORMATION FLOWS OF THE NEW REPORTING SYSTEM



Micro-studies in the fifth plan

It may be noted that the Draft Fifth Five Year Plan document envisages local level investigations similar to the study of interrelations proposed here. The following passage is relevant.

> "It has been found that similar programmes carried out in more or less similar physical environments in the country give vastly different responses in the matter of productivity. It has long been felt that there are various socio-economic factors in the environment which bring about these changes in responses. This is a field of research which has not been probed. There are various other infrastructure problems which go far beyond agriculture per se and are not easily understood by agricultural workers. In all these fields some amount of research by knowledgeable groups has to be organized and the agricultural planners kept informed of the variants and the possible methods to tackle them. In the fifth plan, provision has been made for various micro-studies in agricultural economics and sociology which provision will be used to probe these dark areas of our knowledge." 1/

The research referred to above has agriculture in view. However, similar work will be useful in other fields of development like education, health and family planning. Measurements in different localities in the country on indicators of progress together with observations on the relevant factors would provide invaluable primary data for the work of unravelling relationships. Comparisons over time and space and the analysis of significant differences that may be observed can lead to conclusions which will help in improving future plans and operations.

1/ See Government of India, Planning Commission, *Draft Fifth Five Year Plan 1974-79*, Part I, p. 104, paragraph 9.111.

SECTION 4

DEFINITION OF LOCALITY

For the measurement of progress at the local level it is evidently necessary to have a clear definition of what constitutes a locality. From many points of view the village would appear to be the obvious choice as the ultimate unit in any system of progress reporting for rural India. For centuries the village has been a self-contained unit of social and economic life. It has been and still is the lowest level at which land records are maintained and where a whole-time government functionary has his office. In most parts of the country the village is an easily identifiable geographical entity with a cluster of habitations at one place and the agricultural land all round it. The population census, the national sample survey and other data gathering agencies have depended on frames made up of villages arranged according to the administrative hierarchy. In the urban areas also these agencies have demarcated for convenience of operation village-sized areas called 'blocks'.

Variation in size of village

There are altogether 575,718 villages in India with a total population of 439 million. An average village thus has a population of 762. The distribution of villages according to population is given below.

Population	Number of villages
- 199	150,100
200 - 499	168,512
500 - 999	132,873
1000 - 1999	81,909
2000 - 4999	35,991
5000 - 9999	4,975
10,000 +	1,358
Total	575,718 1/

1/ Excludes 53,428 uninhabited villages and 3 villages of Manipur for which data are not available.

Villages vary in size from almost zero to more than 10,000 persons. In some parts of the country (e.g. Kerala) the village as a distinct geographical entity does not exist. The houses do not cluster very much but are spread over the inhabited area. The villages recognized for administrative work in these regions are more or less arbitrarily demarcated.

Requirement for statistical stability

As a base for some statistical indicators most villages may be too small in size. Fluctuations tend to be too erratic for example of birth rates based on population of around 1,000. Only when we have a population of over 10,000 does a clear message appear to emerge above the random noise. Birth rates are only one of many indicators of interest, but reduction of birth rates being one of the important development objectives in India at present, this will be one of the indicators in any system of progress reporting. The situation will however be similar for death rates, infant mortality rates and other indicators dependent for their statistical stability on the size of the population.

Other criteria

The need to reduce random variations in statistical series thus leads to a lower limit (in terms of population and socioeconomic events and transactions) to the size of locality. A more important argument in favour of a lower limit of around 10,000 population stems from considerations of efficiency in the organization of various services required by the community. For instance a single village cannot provide the 300 or so school-going children required for an efficiently operated middle school. A population of 10,000 can be expected to have about 700 boys and girls of the age 11-14. A health centre, post office, electric substation or marketing centre will all require a certain volume of business which cannot arise in an ordinary village. From the point of grain storage facilities, fertilizer storage and distribution and agricultural management generally, the growth centre project has assembled a great deal of data and analysis which show that 'micro-regions'

of about the size indicated above would be the most appropriate units for development planning. 1/

On the other hand there are considerations pointing to an upper limit to the geographical size of the locality. The bicycle and the bullock cart being the chief means of transport in the rural areas, a radial distance of five kilometres from the central place to the boundary of the locality would appear to be the maximum limit to which a single socio-economic community can extend. Such an area would spread over about 30 square miles and will have a population on average of around 10,000.

The economic and social consequences of regional organization with varying sizes of locality could be gone into in greater depth and studied from the point of view of agriculture, industry, transport, communications, education, health and other services. This would call for more time and resources than is available for the present work. From the considerations mentioned above it looks unlikely that the optimum size of locality will be very much different from a group of villages with population of say 8-12 thousand people.

Possibility of several reporting tiers

It has been noted above that the minimum base to achieve statistical stability must be larger than the village for variables like birth rate or (even more) infant mortality. Similarly, when we compare, say, average height or weight of children of particular ages from year to year, a sample of at least 100 children at each age will have to be measured each year, and this will not be possible without covering a population much larger than that of an ordinary village. When dealing with other variables, on the other hand, a smaller base would be acceptable. For example, an average village containing about 150 housing units could be a base

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1/ Prodipto Roy, "Micro-regional planning for the management of agriculture", *Social Change*, vol. 3, pp. 6-19, 1973. Published by the Council for Social Development, New Delhi, India.

for reporting trends in housing variables (e.g. percentage of houses with latrines). Nonetheless, for the sake of administrative simplicity, it would be an advantage to have a common area of observation, namely the locality. This will not prevent break-downs for variables that can be appropriately broken down.

Nor does it imply that *all* reporting and analysis need be done in terms of the locality of approximately 10,000 people. For one or two characteristics, a broader base may be desirable. For example, since a locality contains relatively few villages (15 on average), the analysis of trends in village facilities (e.g. presence or absence of a clinic) especially if adjusted to size of village, may be appropriately done by the States Statistical Bureaux for an aggregate of localities when such data are available. Similarly, if reporting is desired on certain categories of the population who appear in relatively small numbers, a base larger than the locality may be required.

Opinions of experts

This question of the size of locality for the purpose of measurement at the local level was discussed with the Directors of Statistics from all the States in India at a meeting at Delhi on 21 November 1973. It was also discussed with a number of experienced sociologists, economists and planners in November, December and January 1974. Almost all of them (one or two exceptions preferred the village) were in agreement that as a unit of development as well as for monitoring progress the size of locality as indicated above was the most appropriate. In at least two of the States serious thought had already been given to schemes for the gradual relocation of population into localities of size 10,000. Incidentally, this size also happens to be the average area allotted to a village level worker (VLW) in the Community Development Programme.

Regional differences

The size of the locality both in terms of population and in terms of geographical area will have to take account of regional differences. While in most States, localities

can be of population size 10,000 this will require an unmanageable geographical area in thinly populated States of the northern hills (Nefa, Nagaland, Himachal Pradesh, Kashmir) and also the deserts of Rajasthan. Altogether, these considerations may affect fewer than 2,000 out of 45,000 rural localities that have to be demarcated. Lalit Sen 1/ has shown that the functional dependence of hinterlands on central places does not extend very much beyond a population threshold of 10,000. Chart 2 which is reproduced from Sen's paper shows that whereas for localities with population 1,000 less than fifty per cent of the services required by the inhabitants are available, this percentage increases to 99.9 when the population is 10,000.

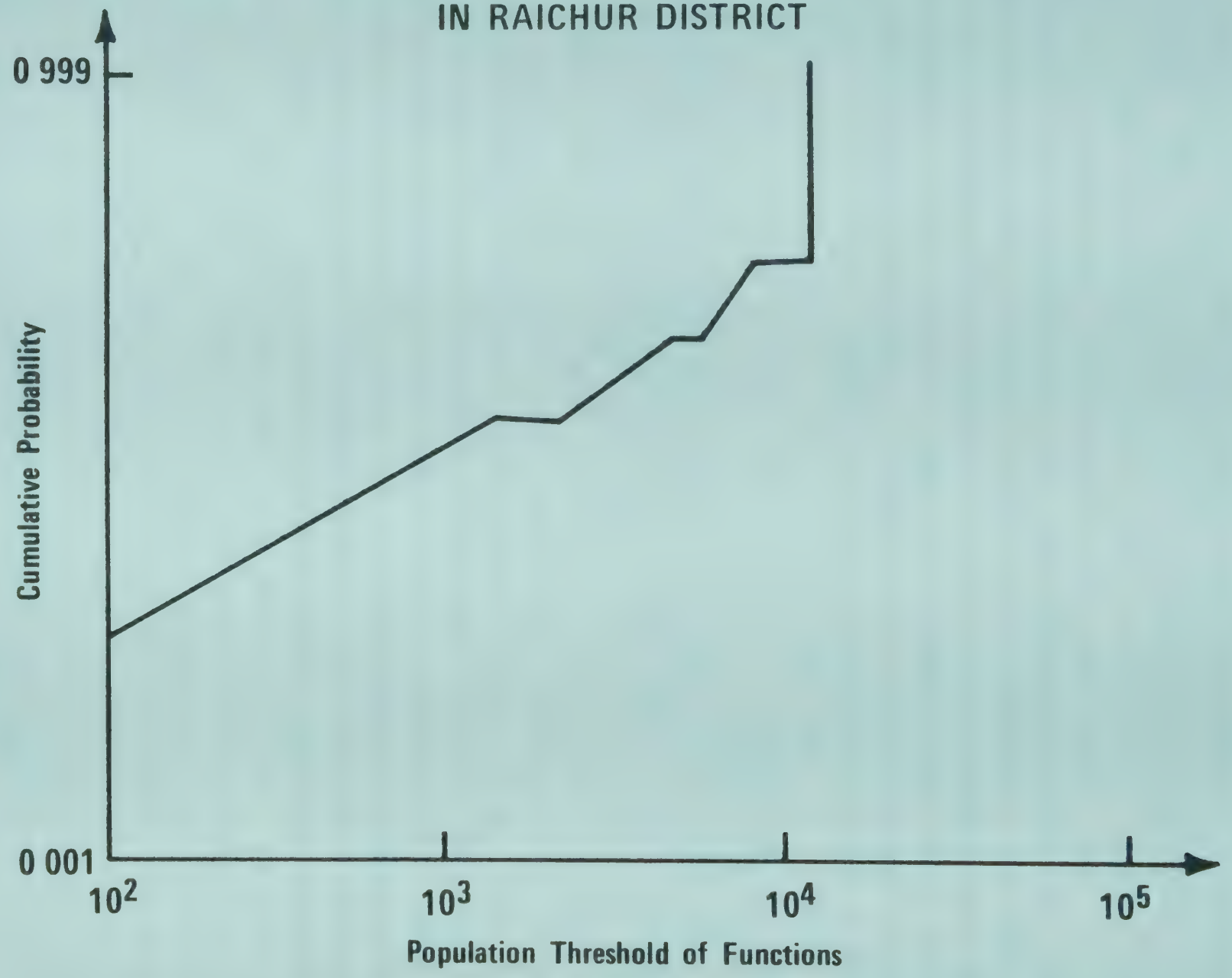
Urban localities

We have not considered the question of demarcating localities in the urban areas. Progress reporting at the local level in towns and cities may pose somewhat different problems from those arising in villages. Purely from the point of view of statistical stability localities of the same population size as for rural areas might suffice. However, no work of the type done by the Growth Centre Project seems to be available for towns. Nor is the five kilometre limit of transportation applicable. Possibly, localities of larger size may turn out to be appropriate. The problem is again discussed briefly in Section 7.

1/ Lalit K. Sen, "Identification of growth centres and their hinterlands: a case study of Raichur District (Mysore)", *Journal of the Institute of Community Development*, Hyderabad, 1972, pp. 45-64.

Chart 2

HIERARCHY OF FUNCTIONS BY POPULATION THRESHOLDS IN RAICHUR DISTRICT



(reproduced from Lalit Sen, op. cit.)

SECTION 5

INDICATORS OF PROGRESS

As mentioned earlier, indicators of progress have to be chosen by an evolutionary method beginning provisionally with a reasonable sub-set from an almost unlimited number of possible alternatives. Much more testing in the field, discussion and consideration of criticism will be needed before a final list can be prepared. The list shown below is therefore only illustrative. It is based on suggestions obtained during discussions with a large number of experts in India (sociologists, economists, statisticians, etc.) as well as on published material from the United Nations and elsewhere, from which were retained indicators considered to be important to planners and practical from the point of view of data collection.

Most of the indicators are not shown in their final form. For example, consumption of rice can be expressed as (i) per capita consumption of rice or (ii) per household consumption of rice for different categories of household (iii) percentage of individuals in households where less (or more) than a specified amount of rice is consumed per capita or (iv) as a complete distribution of individuals or households by amount consumed. Decision on the final form of the indicator should follow a decision on the contents of the system in general terms.

General and specific indicators

The proposed observatories provide an opportunity for experimentation and for the selection of indicators that are specifically applicable to the local situation. At the same time, some uniformity must be preserved, certainly as between observatories of the same State, but also between different States, in order to facilitate reporting, and to avoid a mass of complex, heterogeneous material that cannot easily be used by planners. The new system, therefore, will be asked to produce information that is relevant to local conditions, but which can also be part of a general reporting system. In the

case of the indicators, only experience will tell to what extent and in what form the two partly contradictory requirements of the system can be accommodated. As it stands, the provisional list contains common indicators, as well as suggestion for supplementary material.

Indicators of levels of living and other indicators

It is not possible to obtain universal agreement on the meaning of progress. Thus the existence of liquor shops in some States of India has been denoted as progress by some people whereas others would describe their emergence as a retrogressive step. Even with respect to levels of living, on which agreement is more widespread than on some of the indicators relating, for example, to social or productive structure, not all people can agree that a certain item truly represents progress. However, because there is relatively widespread agreements on levels of living (nutrition, health, education, etc.) as indicators of progress, these have been given most prominence in the list. It has been stressed, however, that information should be gathered on other factors, some descriptive, others functional, including: (i) background information (e.g. population, economic structure); (ii) institutional aspects likely to lead to progress in levels of living (e.g. organizations that stimulate economic and social activities, land reform, where appropriate); (iii) economic and technological factors that are associated with changes in levels of living (e.g. changes in productivity and reasons for change such as the use of fertilizer, changes in employment, including greater employment and greater productivity of employed labour, diversification of production, etc.); (iv) changes in societal structure.

While observatories of the kind envisaged here are eminently suited to the observation of change in these various conditions and to the analysis of interrelations, it would be unfortunate if particularly in the early phases of their existence they were asked to undertake more work than they can reasonably handle. In the first instance, therefore, they should be allowed to concentrate on their primary task, which is the collection of data on changing levels of living, together with a minimum of background data needed to interpret

the statistics (for example, data on total population in a locality, because statistics on changing levels of living have a very different significance in a rapidly growing and a rapidly declining population).

Urban and rural indicators

The preliminary list was devised for measurement of progress in rural areas, pending further work on urban areas which eventually should be part of the reporting system to the same extent as rural areas. Many of the indicators are indeed applicable to urban as to rural conditions, since basic needs are the same and progress in towns as well as in villages includes the provision of adequate food, clothing, health, education and housing. It is necessary also to have some common indicators, if only to compare progress in urban with that in rural areas, and to be able to say whether people who have migrated to towns from the countryside are better off, or not, as a result of the change.

Other indicators, however, would be different. It is not meaningful to define progress in large towns and cities in terms of whether or not there is a teashop, or in terms of distance to the nearest 'pucca' road connected with the national highway, since the existence of such facilities can be taken for granted in towns. Indicators that might be used in urban areas, but are infrequently found to be meaningful in rural areas would include the provision of sewage disposal and drainage, or of means of transportation to the place of work. In a sense, the distinction between urban and rural indicators is a special case of the distinction between general and particular indicators mentioned previously.

Quantitative versus qualitative information

Very significant improvements in conditions of life can be brought about if the laws affecting a region or social group are changed, to permit divorce, for example, or widow remarriage, or to establish local taxation or the prohibition of factories causing pollution, or a change in the system of tenancy. It is not possible to build quantitative indicators to deal with such changes in the same way as indicators to

measure changes in school attendance, but they may be dealt with through the kind of 'journalistic' treatment described in Section 2 above. It should be remembered also that while, say, a divorce law cannot be measured, but only described, its impact is measurable in principle through a count, before and after the law, of the number of divorces, given enough time for the impact to penetrate the social structure.

(The term 'qualitative' tends to be ambiguous in its relation to indicators. Some people talk, for example, of the quality of education in the sense of syllabus content, qualifications of teaching staff, or examination results, all of which can be expressed in numerical terms, and in this sense of the word are 'quantitative', not 'qualitative' measures.)

Complex and simple indicators

Various forms of statistical treatment have been elsewhere recommended for the purpose of combining indicators into a single index, or for avoiding overlapping or duplication between indicators, or, to put it another way, in order to express the maximum coverage of all aspects of progress by the smallest number of indicators. So far, no convincing case has been made in principle for the use of a single complex index to cover a variety of conditions in preference to a set of individual indicators; nor has multivariate analysis as yet been effectively used in practice in the selection of local indicators. However, it is proposed that continued statistical experimentation in the study of interrelationships and identification of redundant indicators versus key indicators be part of the reporting system. 1/

1/ Planners often ask for an arrangement of localities and regions according to some *single* indicator of backwardness so that they may make special allotment of additional development resources to the most backward localities and regions. In India, the sixth Finance Commission has made the following remarks relevant to this question. "The assignment of weightage among the different indicators is an intractable issue. Among the numerous indicators put forward before us, we consider per capita

(continued next page)

At the same time, the indicators should among them cover as fully as possible the field they set out to measure. Thus all possible components of progress should be included, and all possible aspects of each of the components, even though there may be certain restrictions in practice.

Indicators of distribution and average

Where possible, indicators of distribution should be used as well as indicators of average or per capita - for example, the percentage of persons using footwear, or buying not less than a certain number of metres of material, as measures of distribution, as well as the average or per capita amount purchased.

Objective and subjective indicators

Indicators of a more objective nature (e.g. number of days spent away from work) are preferred to indicators of a more subjective nature (e.g. replies to the question: How is your health?) pending further enquiries into the suitability of subjective indicators.

Real and monetary indicators

As far as possible, indicators in real terms rather than in monetary terms have been used in the proposed list, to avoid such complications as pricing of non-marketed goods, price inflation, and different prices of the same item in different localities or States.

(continued from previous page)

income as the best possible yardstick for the measurement of the levels of development. We have taken per capita income as the sole criterion in assessing the relative economic position of the States." (See "Report of the Finance Commission 1973", Government of India, p. 16, paragraph 15.) Ranking thus appears to be a political and administrative necessity. One possible way of dealing with this problem may be to make use of some adaptation of the Guttman Scalogram method which in India has been applied to the study of social disabilities of scheduled castes.

The unit of observation

The indicators vary according to the unit for which the data are initially collected. The information may be finally expressed in terms of the locality or whatever area of observation is used (see Section 4 above) - e.g. per cent of persons in the locality who are literate, or extent of coverage of the locality with electricity - but there still remains a choice in respect of the unit of data collection as between the 'locality' as a whole, the individual villages that combine to form the locality, households, dwellings, families or individuals. We may collect data on the availability or not of electricity in the *locality*, on the percentage of *villages* inside the locality supplied with electricity, on the percentage of *households* or *dwellings* with electricity, or the percentage of *individuals* living in dwellings supplied with electricity. Progress may consist at first of electricity coming to any part of the locality, and at a later point more individual villages and dwellings are connected to the mains.

The unit of time

The time reference period is important for certain indicators from a technical point of view. Should the extent of illness be asked for the day of interview only, for the past week, or the past month? Similarly for consumption of food and purchase of clothing, attendance at school, etc.

Permissible margin of error

Measurement and reporting of progress is going to be expensive. It is, therefore, important to reduce this expense to a minimum consistent with the needs of the decisions which are to be based on these reports. It can be seen at once that in some of the indicators very wide margins of error should be tolerable. For instance, if the infant mortality rate is reported as 100 per thousand while it is really 150 (or vice versa) the decision in respect of ameliorative action would be the same. A 50 per cent margin of error would thus appear to be permissible. For comparisons, however, inter-spatial as well as inter-temporal, more precise measurements would be needed.

The order of magnitudes of tolerable error can be determined only by examining the related practical questions, and after some experience is gained of the cost and precision of measurements. In the beginning, a certain amount of flexibility will have to be retained in the sample size and in supervision, cross-checks and other arrangements influencing the margin of error so that adjustments to match quality of measurement to the conclusions dependent on them would be possible without waste of resources.

The problem of time-lag

To be of use, any system of progress monitoring should provide its reports at the right time. However, as in the case of the margin of error, there will be considerable variation among indicators in respect of permissible delays. For instance the 'average age at marriage of girls' which we have chosen as an indicator of the status of women is not likely to change very rapidly. This need not, therefore, be compiled more frequently than, say, once in five years and a delay of one year may not matter. On the other hand, average real wages may change significantly from month to month and it may be desirable to have this with a delay of not more than a month. Some other indicators may be required every quarter and others every year.

What has to be avoided is the usual time-lag in India for large scale data collection and processing which in the past has ranged from three to ten years or more.

LIST A - INDICATORS OF LEVELS OF LIVING

Nutrition 1/

1. Consumption of (a) rice, (b) wheat, (c) two other carbohydrates important in the locality, (d) milk.

Supplementary information might include consumption of meat, fish, eggs, as appropriate in local conditions.

Clothing

2. Quantity of cloth in metres purchased by households during the past year in the form of dhotis and sarees, or equivalent garments,

3. Persons aged 14 and over who ordinarily use footwear on journeys.

1/ Another indication of nutrition may be provided by physical measurements especially on children of different ages. A search of the likely sources has shown that reliable data for this purpose in India will not be readily available even from the records of medical examination of children in schools. Special collection of data for this indicator would be expensive, but would probably be worthwhile. One possibility is to have travelling teams of trained and equipped measurers to visit, according to plan, the observatories proposed in Section 3 to collect data on height, weight and age and other particulars from a suitably chosen sample of school-age children. It may be noted, in this connection, that there is some evidence that average stature has been increasing in many parts of India based on data from army recruits during 1948-1955. See N.T. Mathew "Variations in human stature in India", thesis submitted to the Indian Statistical Institute, Calcutta, 1963.

Housing

4. Covered area of dwellings (in square metres) used by a household but excluding area used for non-household purposes, animals, poultry, etc.,

5. Whether dwelling is of 'pucca' type,

6. Whether there exist arrangements for hygienic disposal of human excreta,

7. Whether there is electricity in the dwelling,

8. Whether the dwelling is close to a pucca lane or road with good drainage. 1/

Education

9. Regularity of school attendance of children, respectively 6-10 and 11-14 2/,

10. Persons aged 15 and over who are literate,

11. Persons in regular education aged 15 to 22,

12. Distance that children must walk to middle and high school,

13. Persons aged 15 and over who are matriculates,

14. Persons who regularly read a newspaper.

1/ For water facility, see under 'health'.

2/ Careful investigations have shown that enrolment as distinct from attendance figures obtained from school records are far from reliable, especially in the rural areas. Furthermore, enrolment does not necessarily mean regular attendance. In view of this it may be preferable to obtain data for these indicators directly from a sample of households. Similar difficulties arising from the poor quality of data from administrative sources afflict many other indicators such as vital rates, land owned, area irrigated and yield of crops.

Supplementary information might include the equipment in schools, qualifications of teachers, details of the syllabus and similar.

Health

15. Infant mortality rate,

16. Rate of prevalence of illness, defined as the number of people too ill during a given reference period to pursue their normal activity 1/,

17. Death rates,

18. Qualified and registered health personnel, distinguishing doctors, nurses, midwives, trained dais,

19. Distance from dwelling to a hospital or health centre with a qualified doctor,

20. Distance from dwelling to protected drinking water (deep wells with walls, or tube wells).

Supplementary information might include incidence of identifiable diseases, preventive services, equipment in the health centre, distance to nearest X-ray unit, etc.

Communications

21. Newspaper reading, as above,

22. Distance from pucca road, as above,

23. Number of telephones in the locality,

24. Households with radio sets.

1/ A World Health Organization Committee in 1957 recommended the use of sample surveys: "It would also be of great value if health inquiries could be made and appropriate indicators constructed which would have reference to individual persons or households or communities, that is, at different levels of a micro type. The method of sample surveys considered in the next chapter would be particularly suitable for such inquiries." (See, "Measurement of levels of health", World Health Organization, technical report No. 137, Geneva, 1957, p. 11.)

Supplementary information might include details of post offices and telegraphic facilities, public transport, etc.

Ownership of durables

25. Bicycles,

26. Radio sets,

27. Furnishings, such as beds or lockable cupboards.

Employment

28. Matriculates who are unemployed,

29. Other unemployment if means can be found to measure it.

Other communal facilities

30. Number of cinema houses,

31. Number of teashops,

32. Distance of households from market or bazaar.

Supplementary information on other cultural or recreational facilities.

Incomes

33. Index of real wages in selected occupations,

34. Household income if data collection is practicable.

Backward groups

35. Age of girls at marriage,

36 Public water sources (wells, tube-wells, tanks) open to scheduled castes. 1/

1/ The social disabilities of scheduled castes is probably peculiar to India. As removal of such social disabilities is one of the specific development goals in India, and as it is usually considered that such disabilities constitute one of the factors retarding progress, this matter is discussed more fully in Section 6.

LIST B - ESSENTIAL BACKGROUND DATA

Population movements

1. Total population, and by age and sex,
2. Numbers of births and deaths,
3. Total number of households, and number of nuclear households.

Economic structure

4. Land cultivated by main crop, other land use,
5. Employment in agriculture,
6. Employment in other major sectors of economic activity (traditional and modern manufacturing, public utilities, commerce, etc.).

Natural phenomena

7. Temperature,
8. Rainfall,
9. Abnormal natural phenomena.

LIST C - OTHER FACTORS AND CONDITIONS LIKELY TO AFFECT PROGRESS

The following is a list of factors frequently mentioned in the course of preliminary discussions that may influence, or be associated with, progress. Factors may be added as the result of further observation at the local or other levels.

1. Distribution of land ownership, of wealth of other kinds, and of income. Other aspects of social rigidity and social mobility, such as the caste structure, status of women, status of particular kinds of ethnic or religious groups.

2. Factors affecting productivity such as technological innovation, change in kind and quality of factors of production including amount and efficiency of labour at *all* levels, non-labour factors such as the supply of water, fertilizer, machinery and other forms of investment in the locality.

3. Quality of local leadership, prevalence of corruption and red tape, quality of public functionaries.

4. Local traditions, such as expenditure on dowries, marriage and other ceremonies, ostentatious expenditure in consumption.

5. Pattern of prices of local produce as compared with prices of goods consumed locally but produced elsewhere.

6. Economic structure, including diversification both within agriculture and in non-agriculture.

7. Institution building, such as various types of cooperative endeavour.

Identification of these factors in terms of precise indicators, and analysis of their relationship to changing levels of living may eventually become part of a regular monitoring system.

SECTION 6

MONITORING OF PARTICULAR GROUPS

One advantage of taking comparatively large-sized localities instead of villages as the units for compilation of statistical reports and indicators is the possibility of obtaining sufficiently large subgroups of particular interest from the point of view of social justice and balanced development of the community. We consider below three such subgroups, namely, (a) scheduled castes and scheduled tribes, (b) women and (c) economically weaker sections. Specific programmes for the well-being of these groups are included in development plans, making measurement of their progress a matter of current practical importance. It is also possible to think of other categories such as those too old to work or children and youth, all of which may require separate treatment. The statistics of children and youth, for instance, are being actively promoted by the Central Statistical Organization with encouragement from UNICEF. The most urgent and difficult problems are, however, those connected with the social and economic disabilities of the scheduled castes and scheduled tribes.

Scheduled castes and scheduled tribes

It is well known that for many centuries Indian society was divided into innumerable caste groups which are hereditary. Each caste or group of castes had its own distinctive calling. Inter-marriage between members of differing castes was not permissible and occurred very rarely, if at all. These castes could be ranked in order of social standing with high caste brahmins at the top, the scheduled castes (and tribes) at the bottom and a large number of intermediate castes. The scheduled tribes are primitive groups probably descended from the aboriginal inhabitants of the country who now live in the hilly regions and some other areas without much intermingling with other groups.

Altogether there are 572 scheduled castes and 482 scheduled tribes listed in the Constitution. According to the 1971 census the population of scheduled castes was 80

million and that of scheduled tribes 39 million. Apart from the scheduled castes no other caste is officially recognized in India. Caste distinctions, however, continue almost unchanged in the villages though in towns and cities the barriers may be fading away.

Amelioration of the conditions of life of scheduled castes and scheduled tribes is not only an important goal of planned development but is among the basic objectives set forth in the Indian Constitution. The importance which development planners attach to the improvement of the social and economic conditions of backward classes (mostly scheduled castes and scheduled tribes) can be seen from the fact that in the Fifth Five Year Plan (1974-79) the outlay proposed for this purpose is Rs. 2,500 million. Altogether about Rs. 4,500 million were devoted to this purpose in the preceding 22 years of planning. All this is in addition to benefits to backward classes which may be expected from programmes for the general development of the community and the facilities made available to backward classes by 'non-plan' expenditure. A great deal of welfare work is being attempted by non-governmental agencies also.

Progress of scheduled castes and tribes is important not merely from the point of view of social justice but also for the speedier development of the country as a whole. Social scientists who have studied this problem which is peculiar to the Indian sub-continent are of the view that the existence of untouchability and other caste barriers is one of the major factors hampering economic growth. 1/ Removal of social disabilities, however, should be and is one of the goals of development in India irrespective of whether this has anything to do with general economic progress or not.

One can see from the official reports of the Commissioner of Scheduled Castes and Scheduled Tribes and from other documents that progress in this field (though it has not been systematically examined by quantitative

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1/ See for instance, G. Myrdal, *Asian Drama*, Pantheon, New York, 1968.

measurement) has been considered to be very slow. A high level committee that investigated this matter not very long ago has stated: 1/

> "It is however quite certain that untouchability as a propensity on the part of caste Hindus to discriminate against the scheduled castes is not vanishing either in the towns or in the villages. In the villages both the type of untouchability (i.e. physical untouchability and a mental attitude manifesting itself as social discrimination) are prevalent in acute form."

Apart from social discrimination and economic exploitation by 'higher' caste citizens, there are also social disparities among the scheduled castes and tribes themselves. Any system of monitoring progress in the rural areas of India should, therefore, have as an important component a means of measuring changes in the conditions of life of these people.

All the indicators of progress will need to be observed separately for scheduled castes in localities where there is a large enough number of persons belonging to these castes. There will also have to be some measurements of progress in relation to the removal of social disabilities such as untouchability which are directly dependent on caste. These will be required in all localities where scheduled castes live.

The problem in relation to scheduled tribes would be somewhat different. In general the tribal people live in localities almost exclusively occupied by them and not in mixed localities like the scheduled castes. Social disabilities like untouchability either do not exist or have no opportunities for manifesting themselves, and in any case there will be little possibility of measuring them. The

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1/ Government of India, Department of Social Welfare, "Report of the Committee on Untouchability, Economic and Educational Development of Scheduled Castes and Connected Papers", 1969.

demarcation and selection of localities can provide for separate progress measurement on scheduled tribes. Special problems of these tribes relate to economic exploitation by the non-tribals who try to expropriate their land or pay unfair prices for their products and their labour.

Separate indicators may also be required. We have included in List A of Section 5 one such indicator, relating to scheduled castes (item 36).

Examination of some recent data on scheduled castes 1/ suggests that such data may be usefully analyzed through the Guttman scaling technique. It seems likely, for example, that those castes that are barred from access to public sources of water, which is the most frequently mentioned type of discrimination, would be disadvantaged also in respect of the other items of discrimination.

Status of women

Even though the conditions surrounding the life and work of women in India are rapidly changing, especially in the urban areas, there is no doubt that they are still comparatively underpriviledged in many respects. Evidence of social and economic disadvantages and discrimination can be found in higher infant mortality rates for females, lower school enrolment rates for girls, lower literacy rates for women, differential employment opportunities and wage rates, etc. It has been stated that the backwardness of women, besides being an evil in itself, is one of the very important factors holding back general development. 2/

1/ B.K. Roy Burman and P. Ittaman, "Traditional Social Disabilities in Rural India, Part I - Southern Region", Census of India 1961, mimeographed, undated.

2/ See, for instance, D.C. McClelland, *The Achieving Society*, Van Nostrand, New York, 1961.

There are, on the other hand, sociologists in India who consider that the status of women is relevant only to a thin segment of the middle class. They point out that among the poorer classes who constitute the bulk of Indian Society the participation of women in productive work and their share in its benefits is no different from that of men, though their numbers in the 'labour force' may be smaller. In the small affluent section of urban society also women cannot be considered backward.

In order to investigate this question scientifically and to register changes it is extremely important to have systematic data on the condition and progress of women. All the indicators suggested in Section 5 which relate to individuals will have to be compiled separately for women. Age at marriage of girls is an indicator considered to be related to the status of women. Other indicators, like employment in non-manual occupations, participation in local decision-making bodies like panchayat samiti's, freedom of choice of a spouse, role in family affairs etc. may also have to be considered.

Weaker sections

This is a term which in recent years has become popular among politicians and planners in India though a precise definition of what is meant may not be easy to produce. The majority of scheduled castes and scheduled tribes will obviously be included in this group. In addition, the landless and the nearly landless among the agricultural population could be included as well as the slum dwellers and the unorganized manual wage earners in the towns. Sometimes a definition based on per capita income (e.g. Rs. 40 per month or less) is used to identify the poor. Compilation of separate indicators for weaker sections uniformly in all the localities selected for progress monitoring will increase the cost of statistical work. The National Sample Survey devoted most of its energy in the twenty-fifth round (1970-71) to the collection of data on the weaker sections of the rural population. Such data may be used to find out whether there are any local problems of the weaker sections requiring intensive study by the observatories, and to devise suitable indicators.

SECTION 7

REPORTING ON TOWNS AND CITIES

The present proposal so far has been concerned with reporting on rural areas, containing 80 per cent of the population of India. Much of the poverty, however, is found also in urban areas, and reporting on progress would be incomplete if urban areas were ignored. This is the more so, as growth of urban areas is disproportionately faster than of rural areas, and the former are therefore becoming numerically more important.

Reporting on towns, however, presents problems in many ways different from those in villages - in respect of the optimal size of locality, type of indicators, methods of obtaining information and existing sources of data. These problems require further study, and no definite proposals have been worked out as yet. A great deal of discussion with town planners, urban demographers, sociologists and other experts will be necessary before a concrete scheme can be evolved. It is envisaged, however, that the pattern of reporting and the institutional structure should be the same as for rural areas. Socioeconomic observatories will be set up in selected localities in each State, each staffed by two observers, who will report in the same way as the rural observers (to the State and Central authorities), using in part the same indicators, for example some of those relating to food, health, education and housing. However, many of the indicators, particularly those relating to communal facilities would be different. Also some indicators of environmental pollution will have to be thought of, especially now that this subject is becoming fashionable in India.

It should be borne in mind also that there may be much more variety among different urban areas than among different villages. It is true that the latter vary from very small hamlets, or (as in Kerala) houses standing in isolation, to large agglomerations containing up to 15,000 population. However, it may well be that the variety among towns is even greater particularly in respect of those characteristics

used to measure progress. One need only think of the contrast between a small district town in Southern India and a sprawling industrial slum area in Calcutta. It would be one implication that the number of localities needed to ensure representativeness would be proportionately greater than for rural areas.

The nature of the 'locality' would not be the same as for rural areas. A small town of about 10,000 population might be a locality for the purpose of progress reporting, but a decision would have to be taken on how to divide larger towns, and cities, so as to obtain suitable 'localities'. The criteria of definition should be the same as rural areas: (i) relative homogeneity within the area, and (ii) population should be sufficiently large to ensure statistical stability, but the area should not be so large as to make the localities unwieldy for survey purposes. Calcutta or New Delhi, for example, are unsuitable if considered in their entirety, but they could be divided into relatively homogeneous areas and a selection of such areas used for reporting purposes. Physical size plays a large role in rural areas where the population is widely scattered, but may be relatively less important in towns.

The National Sample Survey has divided the towns and cities of India into well defined geographical units called 'urban blocks'. Each of these urban blocks contains about 150 households which is roughly the size of a village, and they are identifiable on specially prepared maps. An area consisting of several contiguous urban blocks may perhaps be chosen as a locality. One great advantage here would be the ready availability of a 'frame' from which a choice of localities for inclusion in the progress monitoring system can be made.

Alternatively, a very different design might be used in large towns. These could be divided into smaller units, each one fairly homogeneous, and a sample of such smaller units included in a 'locality', which would then consist not of a single geographically compact area, as in the countryside, but of physically dispersed areas.

As the inclusion of urban areas in the reporting system needs further investigation, and since in any case the system will be introduced in gradual phases, problems of the urban areas could be further studied at the same time as reporting is initiated in the villages. Urban reporting would then become part of the system during a later phase.

The cost of the observatories in urban areas and also the cost of supervision and processing will be additional to the estimates indicated in Section 3.

SECTION 8

SUMMARY

Measurement of social and economic progress in India is at present generally by means of global indicators for the country as a whole or for large regions like States. In this document a proposal is outlined for local level measurements through a network of socioeconomic observatories (SEOs) in the rural areas. Extension of the network to urban areas will require further study. A 'locality' for the rural areas has been defined as a group of villages with a total population of about 10,000. Between 100 and 200 localities will be required for the country as a whole with between 5 and 10 per State. The total cost for the rural areas including fieldwork as well as analysis has been estimated at between 2.5 and 5 million rupees depending on the number of observatories.

A tentative list of social and economic indicators covering nutrition, clothing, housing, education, health, transport, communications, etc. has been drawn up together with lists of other auxiliary data to be collected. These lists as well as the proposed system as a whole were discussed with a large number of experts in India and elsewhere. There is a general consensus on the importance of local level measurements and on the general approach suggested. Planners are interested not only in the measurement of progress but also in the analysis of interrelationships with factors which stimulate or retard development, and such analysis can be most suitably done at the local level. Planners have also the problem of identifying and ranking of backward localities from the point of view of equitable allocation of resources. The methodology of dealing with these problems requires further investigation.

The Central Statistical Organization may be the appropriate agency for coordinating the proposed progress monitoring system particularly as it is now located within the Ministry of Planning. The SEOs and the supervising units can be adminstratively under the State Statistical Bureaux. This should facilitate the use of the system by Central as well

as State planners. An advisory committee on which all concerned government agencies and non-government institutions and social scientists will be represented can guide the work. The CSO will require a progress monitoring cell and/or a clearing house for local level data and their coordination with data from other services. Full cooperation will also be established with agencies like the National Sample Survey and the Programme Evaluation Organization.

Monitoring of particular groups like scheduled castes and scheduled tribes has been considered. Within the general framework of the system special arrangements and indicators will have to be devised to deal with these groups.

Concrete proposals have not been made for progress measurement in urban areas. This will require further study.

The present document is part of a larger project which the United Nations Research Institute for Social Development is sponsoring in a number of countries in different parts of the world. It is also a proposal for early implementation in India.

Measurement of Real Progress at the Local Level:

Report on the Country Case Study in Poland

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CONTENTS

1. Introduction

Poland is a country of 312,000 sq.km. (120,633 sq.m.) inhabited by 34 million people. Before World War II its economy was backward with considerable differences among its regions in the level of socio-economic development. The western part of the country was comparatively well developed, whereas the eastern part was underdeveloped and poor. Differences between those two parts, measured by yearly growth rate of income, was 20 - 25 years. Nowadays, Poland belongs to the countries with a relatively high rate of per capita income and occupies a high place among nations from the point of view of economic growth. 1/ The entire economy is centrally planned and the greater part of it is under direct state control. Agriculture which is private to the extent of approximately 70 per cent is a notable exception.

The first studies with respect to per capita consumption of several food articles at the sub-national level were carried out in 1956, using a few voivodeships as examples. However, only since 1970 has interest in the living conditions of the population in Poland at the local level become widespread. Since 1970 investigations have covered in some cases 17 voivodeships, and 370 small local units in other cases. The former containing several millions of inhabitants, were too large as units of analysis. The latter were too small: considerable mobility of population and migrational translocation made investigations of living conditions very difficult. In 1975 a new administrative division was introduced and 49 voivodeships (regions) were created to include Poland's 810 towns and 2330 communes.

1/ According to estimates of the World Bank, Poland with a per capita GNP of $ 2,750 (1974) belongs to the high-income countries *(the World Bank Atlas 1976: Population, Per Capita Product, and Growth Rates*, Washington D.C., World Bank Group, 1976).

Since 1975 the basic unit for analysis and planning has been the new voivodeship, which we shall also consider as the basic territorial unit for our study. 45 per cent of the voivodeships contain between 250,000 and 500,000 inhabitants, 39 per cent contain 501,000 to 1,000,000 and only 16 per cent contain more than one million inhabitants. These are the most industrialized and urbanized units.

2. The scope and data of the regular statistical reporting system

The Central Statistical Office gathers i.a. statistical data with respect to socio-economic development in the above-mentioned 49 voivodeships. Some of the indicators, out of 37 gathered annually for each region, are presented in the table below. Many among them provide an approximate description of living conditions in different regions, partly in respect of individual consumption or ownerships, partly as measures of more general conditions of work and living.

The Table contains the national averages of 23 socio-economic indicators and their individual values for each of the 49 regions. The latter were arranged according to the average rank for all indicators, the lowest rank indicating the favourable place overall of Warsaw, the national capital. 1/ Warsaw is followed by the second biggest city, Lodz, and by the regions of Poznan, Gdansk and Wroclaw. In the last three, the main urban centres dominate the economy of the entire regions. They are closely followed by the region of Katowice, which includes the major part of the industrial region of Silesia. At the lowest end of

1/ The average rank gives equal weight to all indicators, a procedure which may not do justice to reality. However, more extensive research is necessary in order to apply proper weighting.

Indicators of regional socio-economic development in Poland, 1975.

Indicators	National average	Index of dispersion 1/
1. Value of retail trade in 1000 zl per capita	23.7	1.9
2. Saving deposits in zl per capita	8,488.0	3.7
3. Electricity consumption in kwh per urban inhabitant	300.9	1.8
4. Electricity consumption in kwh per rural household	873.2	1.9
5. Car vehicles per 1000 inhabitants	30.0	5.8
6. Housing conditions: number of persons per room	1.21	1.4
7. TV ownership per 1000 inhabitants	189.0	2.3
8. Radio ownership per 1000 inhabitants	238.0	1.9
9. Telephones per 1000 inhabitants	42.9	6.6
10. Fixed capital stock: gross value per capita in 1000 zl	141.5	2.5
11. Capital investment in zl in 1975 per capita	15,568.0	4.5
12. Communal water consumption per capita in m^3	52.2	3.9
13. Employees with higher education as per cent of total employment	6.3	4.2
14. Expenditure on services in 1000 zl per capita	4.5	3.5
15. Balance of interregional migration per 1000 inhabitants	-	2.0
16. Hospital beds per 10000 inhabitants	66.3	3.5
17. Meat production per 100 ha of arable land in 100 kg	160.0	2.6
18. Yields of main grains per ha in 100 kg	24.8	1.9
19. Share of least productive land(class VI) in total arable land in %	12.6	15.9
20. Arable land per tractor	36.0	4.0
21. Railway lines in km per 100 sq.km	8.5	8.5
22. Hard surface public roads in km per 100sq.km.	45.6	2.7
23. Public relief and assistance in kind per capita in zl	39.3	2.0
24. Average rank over 23 indicators	-	-

Source: Rocznik Statystyczny Wojewodztw 1976, GUS, Warsaw 1976.

1/ Range divided by lower extreme value

No.	City of Warsaw	City of Lodz	Poznan *	Gdansk	Wroclaw	Katowice *	Szczecin *
1.	32.7	27.1	27.8	26.7	27.0	26.6	28.8
2.	17,191	9,784	10,248	10,559	12,226	7,900	11,987
3.	379	377	316	321	296	326	275
4.	1,184	1,053	903	963	942	1,045	864
5.	64	43	55	43	41	37	34
6.	1.12	1.14	1.18	1.21	1.16	1.11	1.15
7.	249	255	222	211	214	229	226
8.	298	307	266	259	246	264	262
9.	126	65	51	59	60	35	65
10.	158	145	150	159	154	177	207
11.	18,151	14,473	13,865	22,922	16,395	23,899	33,521
12.	72	57	43	50	58	67	59
13.	13.1	6.9	8.9	8.5	9.3	5.4	6.2
14.	9.7	5.5	5.6	5.3	5.3	4.0	5.1
15.	12.6	8.4	3.9	10.3	0.4	7.1	0.7
16.	97	84	75	74	93	79	60
17.	184	196	259	191	176	182	162
18.	22.9	22.4	30.7	25.0	32.3	25.3	31.4
19.	17.2	18.4	11.3	18.9	5.2	6.4	4.5
20.	35	48	22	28	25	28	27
21.	13.9	11.4	13.0	11.8	12.9	23.1	11.7
22.	46.7	51.6	48.4	40.8	57.0	55.4	41.0
23.	30.7	37.1	36.3	32.7	40.9	30.2	37.5
24.	5.6	9.6	9.4	9.7	10.3	10.0	12.0

* denotes regions covered by extensive panel equiries organized in 1976

No.	Bydgoszcz	Opole	Legnica	City of Cracow	Torun*	Koszalin	Leszno*
1.	24.8	24.2	25.5	24.4	23.3	28.6	25.7
2.	7,803	8,533	9,417	9,441	7,925	9,504	9,282
3.	276	259	248	314	284	265	236
4.	930	919	908	679	824	829	656
5.	32	29	28	38	28	29	32
6.	1.20	1.02	1.11	1.24	1.23	1.13	1.14
7.	210	202	202	187	199	200	206
8.	258	245	225	236	251	239	256
9.	49	31	37	44	41	47	32
10.	149	148	180	157	136	145	115
11.	16,566	17,222	34,292	13,464	12,608	17,289	11,071
12.	46	56	70	51	39	54	35
13.	5.0	4.6	3.9	11.7	5.1	5.2	3.3
14.	4.5	4.0	4.2	5.1	4.5	4.7	4.2
15.	1.9	1.1	6.5	7.2	-0.3	-0.7	- 5.0
16.	61	83	60	76	52	46	75
17.	181	200	185	203	199	142	258
18.	30.3	30.2	33.0	26.0	31.0	29.1	33.6
19.	8.5	7.4	5.8	2.3	7.6	11.3	11.4
20.	25	21	24	48	25	30	25
21.	12.9	12.5	14.6	8.5	11.7	9.9	12.3
22.	44.0	56.3	54.4	87.6	53.0	39.8	62.0
23.	27.6	37.1	37.7	35.2	37.3	48.2	39.4
24.	13.6	13.7	14.4	15.6	17.1	17.6	18.9

No.	Bielsko	Zielona Gora	Olsztyn*	Gorzow	Plock*	Walbrzych*	Lublin
1.	24.1	25.5	25.2	23.7	22.2	22.9	21.8
2.	6,539	9,032	9,870	6,839	8,657	9,104	8,833
3.	326	253	262	234	291	249	322
4.	1,170	735	903	810	707	903	898
5.	26	25	27	23	22	25	25
6.	1.24	1.10	1.23	1.08	1.31	1.18	1.32
7.	178	210	189	206	170	221	169
8.	238	245	229	236	221	261	220
9.	32	36	38	36	32	31	38
10.	137	145	140	169	175	127	136
11.	14,775	16,730	14,700	16,581	20,183	8,987	14,503
12.	45	45	50	46	39	48	44
13.	4.4	4.4	5.2	3.8	4.4	3.1	8.5
14.	4.3	3.9	4.1	3.6	3.7	4.1	4.2
15.	2.6	-5.1	-1.6	-1.8	-4.7	-6.0	1.0
16.	43	75	68	132	61	100	71
17.	153	158	126	156	194	141	179
18.	23.5	24.8	26.3	28.3	28.4	31.5	21.7
19.	8.6	21.4	7.9	14.6	10.2	2.8	5.3
20.	36	31	32	30	33	27	48
21.	11.2	12.0	7.2	9.7	5.8	13.9	4.5
22.	64.8	40.5	39.3	40.0	57.9	62.8	41.6
23.	39.8	34.5	37.1	35.1	42.2	36.5	40.7
24.	19.4	18.6	20.0	19.1	22.2	20.2	23.1

No.	Jelenia Gora	Kalisz *	Slupsk	Elblag	Pila *	Czestochowa	Bialystok
1.	23.2	22.0	24.0	22.5	23.1	21.0	21.0
2.	8,187	6,913	7,719	8,266	6,287	5,787	8,956
3.	255	273	259	248	242	284	230
4.	803	787	851	825	767	775	622
5.	23	30	21	30	26	24	24
6.	1.08	1.23	1.16	1.20	1.15	1.26	1.18
7.	204	184	189	200	198	184	156
8.	248	227	223	245	237	235	227
9.	38	29	42	38	32	26	33
10.	150	107	126	133	121	136	131
11.	9,273	11,446	12,371	12,349	11,279	10,898	11,187
12.	54	35	47	54	33	43	31
13.	3.0	3.5	3.9	3.8	3.1	4.3	6.6
14.	4.3	4.0	4.1	3.6	3.2	3.8	4.0
15.	-6.2	-3.9	-3.9	-8.6	-4.9	-2.3	-2.2
16.	108	40	61	45	46	66	82
17.	123	239	128	141	165	127	119
18.	26.5	28.0	23.7	27.8	26.0	25.1	18.3
19.	3.6	23.6	14.8	2.5	15.5	16.1	17.7
20.	33	33	31	24	28	46	56
21.	14.2	10.0	4.4	11.4	9.9	9.1	5.4
22.	49.3	54.2	37.2	46.4	34.4	51.0	33.1
23.	41.9	39.5	42.4	43.7	40.7	39.1	48.3
24.	21.4	23.5	23.9	24.1	26.9	25.1	27.6

No.	Wloclawek	* Rzeszow	Skierniewice	Sieradz	* Konin	Kielce	Piotrkow
1.	22.3	19.5	19.6	19.3	19.5	19.9	18.2
2.	6,715	6,096	6,065	5,653	5,387	6,591	5,091
3.	284	281	324	307	272	252	260
4.	760	925	832	1,281	632	744	964
5.	19	22	21	19	22	19	18
6.	1.29	1.38	1.33	1.26	1.29	1.36	1.35
7.	177	125	167	158	164	152	159
8.	243	193	225	223	215	201	215
9.	31	27	23	21	25	28	27
10.	115	122	107	102	153	131	106
11.	11,556	12,354	11,575	9,300	10,240	14,793	16,403
12.	30	50	28	27	35	39	30
13.	3.8	6.6	4.2	3.3	3.6	5.1	3.3
14.	3.8	3.6	3.5	3.7	3.4	3.5	3.1
15.	-8.1	0.9	-6.9	-9.7	-7.0	-3.0	-6.6
16.	36	41	52	71	37	54	49
17.	161	157	171	152	151	122	142
18.	28.8	21.9	23.3	25.6	25.6	23.8	22.3
19.	15.5	8.4	14.3	20.2	25.5	13.9	23.5
20.	39	51	43	54	47	72	65
21.	8.0	5.5	7.2	5.2	7.4	7.8	4.8
22.	47.0	59.1	44.3	49.7	46.0	61.5	50.0
23.	43.3	53.3	36.4	44.2	49.9	43.8	40.4
24.	28.0	28.9	29.7	31.1	30.1	29.7	32.2

No.	Radom *	Suwalki *	Tarnow	Ciechanow	Tarnobrzeg *	Nowy Sacz	Chelm
1.	18.4	21.3	17.4	20.6	17.1	20.9	20.1
2.	6,279	7,653	5,275	6,616	5,539	4,618	6,809
3.	279	219	212	252	213	340	230
4.	872	698	723	755	755	975	1,026
5.	22	21	19	18	15	14	14
6.	1.43	1.23	1.37	1.36	1.40	1.37	1.30
7.	144	161	126	152	132	110	151
8.	192	208	197	184	185	184	214
9.	32	30	25	25	23	31	25
10.	112	126	112	107	129	82	116
11.	10,007	11,925	12,300	10,526	13,754	8,304	11,903
12.	45	35	48	24	66	29	30
13.	4.7	3.8	4.9	3.4	4.2	4.7	3.5
14.	3.5	3.2	3.1	3.7	2.8	4.1	3.5
15.	-5.6	-8.8	-4.7	-10.1	-4.8	-6.3	-8.5
16.	44	49	31	35	41	35	48
17.	120	135	155	155	119	99	106
18.	18.5	19.8	21.5	24.8	22.4	19.3	19.2
19.	17.4	14.5	5.7	14.5	11.1	20.9	8.1
20.	62	39	57	39	61	74	53
21.	4.6	5.0	4.7	5.9	4.8	5.5	3.9
22.	47.4	31.7	66.6	44.5	48.5	42.3	30.2
23.	41.4	42.9	56.1	47.0	49.1	52.5	52.9
24.	32.5	32.8	36.0	34.6	36.2	35.0	36.7

No.	Przemysl	Sieradz	Lomza	Biala Podlaska	Krosno	Zamosc	Ostroleka
1.	17.6	17.3	17.7	19.0	18.3	17.8	17.1
2.	6,423	5,371	5,375	6,188	5,053	5,964	4,736
3.	214	289	222	256	208	274	253
4.	549	835	749	739	791	784	764
5.	11	14	18	14	16	11	17
6.	1.33	1.36	1.29	1.24	1.26	1.39	1.40
7.	115	126	120	125	127	121	122
8.	201	183	176	193	190	192	165
9.	30	24	22	21	24	19	22
10.	99	102	110	108	125	105	110
11.	9,736	9,157	9,815	8,376	13,213	7,677	9,372
12.	47	21	21	13	28	18	26
13.	3.8	4.3	4.4	3.8	4.1	3.7	3.3
14.	3.2	2.9	3.1	3.0	3.2	3.0	2.8
15.	-6.9	- 10.5	- 12.5	- 8.1	- 3.1	- 9.7	- 8.3
16.	74	32	36	40	39	49	31
17.	151	190	141	168	103	112	157
18.	21.8	20.4	21.4	17.8	20.3	21.7	20.5
19.	3.0	16.9	18.7	8.4	2.5	2.8	38.7
20.	42	63	58	59	53	38	83
21.	5.8	5.4	2.7	4.5	3.7	5.3	4.3
22.	43.4	37.7	36.7	33.6	35.7	36.6	37.9
23.	55.0	44.3	46.9	45.9	48.0	47.1	52.6
24.	37.0	37.4	39.8	39.3	38.8	40.8	41.0

the table are found predominantly agricultural regions situated to the north-east of Warsaw and in the south-east corner of the country.

The individual indicators exhibit a varying degree of dispersion among the regions 1/: from 1.4 in the ratio of persons per room to 8.5 in the length of railway lines per 100 sq.km.However, almost half of the indicators had relatively low dispersion values as calculated: between 1.4 and 2.7. They characterize some major aspects of living and working conditions, among them housing situation and overall individual consumption (value of retail trade per capita). In a number of indicators the dispersion would have been even smaller, were it not for the natural concentration of certain activities in major urban centres serving the surrounding regions (e.g. retail trade, hospital beds). In addition, some indicators have to be analysed in conjunction with others in order to properly describe the particular situation. The transport network density among regions for example, is much less differentiated if account is taken of railways and road together, rather than separately.

Even if all these additional circumstances are considered, the differences in living conditions among regions remain quite substantial. Before passing a final judgement, however, qualitative aspects of the situation, e.g. the quality of housing should be considered jointly with quantitative aspects. Qualitative indicators could work either way, although one might suspect that a number of them could aggravate the differentials depicted by quantitative indicators.

As mentioned, the Table contains a few results of an extensive annual statistical reporting system on a regional

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1/ The dispersions were calculated by dividing the range, (the distance between the most extreme values) by the lower of the extremes.

basis. The Central Statistical Office collects other data relevant to the measurement of progress in level of living, such as family expenditure budgets. In 1970, in order to better cover all major social groups of the population, the number of families in respect of which budgets were obtained was increased from 3,500 to 10,000. In 1978, further improvement will take place : the selection criteria will be changed in order to take account of the new administrative divisions in the country and thus to increase the regional significance of the results.

Finally, one should mention that in December 1978, the hitherto most extensive national census will be carried out in Poland. It is expected to produce i.a. data on housing conditions, household equipment, migration, education, mutual family relationships, degree of disability, distances and time spent to reach work places and schools within each of the 2,330 communes and 810 towns. Provision of these data to the administrative units will improve the process of regional and local development planning. The results should be available within two years of the Census.

3. The changing significance of socio-economic indicators

Indicators on the level of living of the population have found full acceptance in Poland and are extensively used in practice. Many of them, however, are gradually losing their significance in regional comparisons because they lack the required detail and they no longer reflect(real or perhaps only formal) contrasts in levels of living at the local level. With the growth of real incomes(it rose by 45 per cent per capita in Poland in the years 1970 - 1976), certain items are approaching saturation point. For example, in the 1977 surveys of consumption of principal products in 17 voivodeships no substantial quantitative differences were observed among regions, although such differences appeared among income groups within each region. Also, the quantitative differences in housing conditions measured by the number of persons per room were not very large (from 1.02 to 1.43), and in square metres per person they were even less prominent. As part of

state planning policy, apartment construction has been accelerated while apartments have been distributed according to a strictly defined system which takes into account the amount of floor space per person. On the other hand, private construction of one-family houses, in which norms of floor space and the number of rooms are not strictly controlled, has developed only within the last decade. Differences due to private construction will occur only in the future. More significant differences, however, can be observed presently through qualitative indicators, such as the equipment of apartments with bathrooms and provision of hot water.

In the field of elementary education, no substantial differences among regions occur because eight grades of primary (ten grades as of 1978) education are compulsory for all children. The percentage of young people who continue their education at university level (in Poland this education is also free of charge) is a more important indicator of quality than primary education. It would also reflect the quality of education at primary and secondary levels since the knowledge acquired at these levels is decisive for admission to higher education. Economic conditions of a family should not be a limitation as the majority of students may obtain a scholarship equal to half the average salary in the country.

Also, the death rate of infants up to one year of age (per 1,000 live births) reveals relatively little regional differentiation in Poland, in a situation where the health service is free of charge regardless of the level of economic development of a given area and of the income level of the population. In relation to the health service, also, other indicators, like the number of doctors per 10,000 inhabitants, and partly the number of beds in hospitals and sanatoria are losing their regional significance owing to considerable improvements in transport which enables doctors to be rapidly transported to patients and for patients to be transported to the large macro-regional clinical centres. However, qualitative indicators, such as the prompitude of applying medical aid, the equipment of medical institutions and, finally, the

patient's satisfaction with the quality of medical care, have started to play a more important role. In general, life expectancy could be a good indicator of conditions in particular regions of Poland, provided that there is no large-scale interregional migration, particularly of old people.

The services mentioned so far, housing, education or health, are under considerable direct or indirect influence of central as well as voivodeship authorities which strive to alleviate local differences. For example, food prices have been maintained at almost the same low level since 1960, (the price index increased by no more than 15 per cent between 1960 and 1977), which have been made possible by state subsidies of retail goods (subsidies in 1977 amounted to 15 per cent of gross domestic product). It is estimated that about 60 - 65 per cent of private consumption in Poland is influenced by the state through various economic as well as administrative instruments.

Not subsidized by the state or burdened with high indirect taxes are clothing, furniture, private cars, summer houses and caravans, trips abroad, articles of gold and jewellery. This is the resaon for their relatively high prices. It is in this area of expenditure that the greatest differences appear among various income groups of consumers and among local areas.

In 1955, and still in 1960, the simpler kind of washing machine or radio set constituted a good indicator of the level of living. In 1965 a television set belonged to this group of goods. Nowadays, owing to saturation of households with these articles, regional differences in the ownership of these goods are relatively small. Differences in levels of living are now best expressed in terms of automatic washing machines, colour television, and above all, private cars, garage or a summer house.

Finally, attention should be paid to the considerable levelling off of incomes in Poland. The Lorenz coefficient

of income distribution (0.25) is the lowest in Europe including the socialist countries. The wealth distribution is similarly largely equitable, although the degree of inequality seems to have increased slightly in recent years. According to recent research also, income has been equitably distributed within as well as between local areas. However, owing to the still considerable differences in the average level of incomes between extremes among the regions under research (similarly with expenditure in retail trade through state and cooperative trade enterprises), one can expect that there is a high degree of concentration of the least well off in a small number of largely disadvantaged regions. Extensive efforts are being made to accelerate the rate of economic development of such regions, so as to further reduce the differences in regional levels of living. It is estimated that over the next ten to twelve years the time-lag between the most advanced and least developed regions should be reduced further by at least 1/3rd of the present difference. This would be made possible by an annual average per capita growth rate in gross domestic product of five per cent per year up to 1990. Not an excessive target, given that over the period 1971 - 1976, the average rate of increase was as high as 9.3 per cent. With the projected much higher consumption level of material goods and the intended reduction in the differences among regions, indicators measuring consumption and ownership of consumers' goods will lose much of their significance. Instead, stronger emphasis will have to be put on indicators more closely associated with the quality of life.

4. Measuring particular qualitative aspects of progress at the local level. 1/

a. Distance indicators

For inhabitants of rural areas, the distance to various service facilities, such as retail stores, repair shops,

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1/ Numerous studies have been carried out in Poland in this area by various institutions. To illustrate them, the examples of distance indicators and the measurement of free time were selected.

health centres, schools, libraries, cinemas, theatres, etc., is an important element of their living standard. The shorter the distance, the easier is the access to these service facilities. This may mean using them more often, saving more time for other activities or gaining more free time.

Access to service facilities measured by distance indicators reflects the supply in general. 1/ It has to be supplemented by an evaluation of the quality of services rendered and of the actual extent to which people take advantage of them. However, before research can be carried to this point, the availability of service facilities and the distance to them is a necessary starting point in measuring progress in this area.

Measurement can be done in retrospect (by way of comparing two points in the past) or in prospect. The latter is of particular interest to planners. In Poland five-year regional development plans contain detailed provisions for the construction and location of new service facilities. Ex-ante evaluation of planning proposals through distance indicators might help to locate the new service facilities in sites convenient to the local population. Such research was carried out for the Kalisz voivodeship, one of the administrative regions newly created in 1975. The concept of distance indicators has been applied to services of a higher order, i.e. to services which should be located in the centres of sub-regions comprising several adjacent communes (solectwa), such as hospitals, secondary schools, or cinemas. The distance was measured along the road from the centre of the commune to particular service facilities. The quality of roads as well as public transport were taken into account. An aggregate indicator was used in the sense that the distancesto each higher order service weighted according to the

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1/ A somewhat similar concept was suggested by A.G. Wilson, *Urban and Regional Models in Geography and Planning*, John Wiley and Sons, London and New York, 1975, p.44

frequency of demand were summed. The end result is an average "distance" to higher order services for each inhabitant of the rural commune (indicator of individual distance). If this indicator is also weighted by the total number of the commune's inhabitants then a summary measure of the situation (group indicator of distance) is obtained. The latter is particularly important for planning purposes. Under resource constraints, the location of new facilities should maximize the number of people affected. Comparison of group indicators of distance for all communes before and after the planned location of new service facilities would assist with maximization of benefits.

b. Free time and leisure 1/

The measurement of real progress at the local level should also include indicators of free time and the way it is used. Particularly interesting results in this area have been obtained recently by sociologists with respect to rural areas, where they attempted to find out to what extent "cultural" consumption (reading of books, theatre attendance, etc.,) varies with the socio-economic characteristics of the individual. It was one of the major findings that there is no substantial difference in free time available and the way of spending it among various social groups in rural areas. Another major finding was that the size of the individual farm did not substantially influence the amount of free time and the way it was spent. However, marked differences occurred when the respondents were grouped according to education. 2/

1/ On the national scale extensive research in this area was carried out by the Central Statistical Office. See: *Dobowy budzet czasu doroslych mieszkancow Polski* (Daily time budget of adult inhabitants of Poland), Department Badan Demograficznych i Spolecznych, GUS, Warszawa, 1975.

2/ Detailed results were published in : "Kronika Wielkopolski" No. 1/10/1977. Results of other studies are contained in a special publication for a scientific conference on the cultural activities in rural communes published by the Cultural Society of Wielkopolska, Poznan, 1977

The questionnaire was used also to evaluate future demand in this area. The results are significant when respondents are differentiated by age. In the 150 families covered the following percentages took part in particular free time activities :

	Parents	Children
radio listening	92	97
TV watching	96	98
reading newspapers	90	85
reading books	36	69
social meetings	28	29
cinema	11	58
theatre	2	4
coffee bar	10	60
social clubs and similar cultural organizations	2	34

5. Comprehensive panel investigations on the style and quality of life

In 1976, the Academy of Economics in Poznan and the Institute of Internal Trade and Services designated panels in 17 voivodeships (in the above table their names are marked by an asterisk) consisting of 12,000 rural and urban households. Households in the sample are representative of the respective voivodeships and also of regions of the country with different levels of economic development. Most of the studies carried out so far have been into causes of regional differences in levels of living. The basic typological features of households (economic as well as demographic) are collected on an annual basis, whereas the investigations into various aspects of levels of living are carried out five or six times a year. One of the major subject areas of the panel surveys is the style and quality of life.

Other investigations carried out so far cover the following matters:

1. Changes within the past five years in the possession of particular household durables.

2. Frequency with which members of households make use of 43 different kinds of services including those supplied by the state or nationalized institutions free of charge.

3. Consumption of four basic food products from the carbohydrate group, of three animal protein products and of three kinds of fat.

4. Organization of the process of food consumption and of the preparation of meals in or cutside homes with particular regard to the use of semi-finished and finished products prepared for immediate consumption.

5. Leisure and the forms of its organization with particular regard to rest and tourism during weekends and during annual leave.

6. The degree of satisfaction with the quality of goods bought within the previous half year.

Distinction is made in the course of the economic and sociological analysis by size group of settlement distinguishing those up to 2,000 inhabitants, from 2,000 to 5,000, 5,000 and 10,000 and so on, at intervals to 20,000, 50,000, 100,000 and 500,000 inhabitants; according to the source of livelihood; age; number of persons in the household; level of income. Investigations are conducted by 180 persons.

The questionnaire used in the September 1977 panel survey on the quality of life contains 23 questions concerning the distance from the respondent's residence to retail stores, schools, health centres, cinemas etc. In addition, questions are being asked as to the satisfaction with the present place of residence and about plans to move elsewhere.

The next part of the questionnaire focuses on housing conditions and their qualitative aspects. Thus, besides questions on the size and equipment of apartments, the respondents are asked to express their preference as to living in a nuclear or extended family within the same apartment.

The following part of the questionnaire is devoted to the equipment of households with durable goods and to future income elasticity of their demand. Additional questions concern food consumption : What is its share in the overall value of purchases? What is the quality? How far is potential demand apart from real demand?

Questions are asked on the uses of free time. Sixteen kinds of leisure activities are listed and respondents asked about their preferences, and frequency of taking part in them and reasons for not choosing a particular kind of leisure activity.

The quality of life concept includes also an evaluation of the occupational life of the individual. Relevant in this respect are both the amount of work and its quality as well as the degree of satisfaction with the activity. Questions were put to try and explore the reasons for frustrations connected with work, possibilities of promotion and human relations in work places. Finally, more general questions tried to elicit the degree of happiness in occupational and family life and the overall feeling of a good life.

All the above groups of questions are posed against the economic, demographic and social characteristics of each household. The latter, in turn, are related to more general data on the local economy and the demographic and social composition of the regional population. As proved by several pilot surveys such a combination of objective data with subjective information produces valuable results for planning and policy formulation. 1/

1/ These pilot surveys were conducted in the period 1975 - 1977 initially through students' seminar studies and later with the assistance of specially trained staff.

During 1978 it is intended to set up five to ten regional investigative stations, which would conduct observations of short-period and long-period changes in living conditions under the influence of technical and economIc progress in selected small aerial units.

6. Concluding remarks

Extensive investigations as described above may serve two concrete purposes : firstly, they provide insight into the actual level and quality of living of particular population groups and thus help to properly plan future courses of action. Secondly, periodically repeated they constitute good control measures of real progress achieved as the result of planned actions in the above-mentioned field. In both cases, much depends on proper plan formulation and implementation, as well as on the way in which the reporting mechanism is tied to the planning system.

The latter system is the main instrument of national policy formulation in Poland. Over the years certain features of planning have evolved which are of particular importance with respect to the measurement of real progress:

(i) The plans cover not only economic matters but also major aspects of social and cultural needs of the population. Thus, besides industrial and agricultural production, housing construction and transportation, planning includes development of education and health facilities, the provision of cultural or recreational activities including cinemas, libraries, theatres, etc.

(ii) The plans constitute a system of interconnected parts with three levels of decision-making : the national, regional and local. Through these levels population needs and local requirements are transmitted upwards to the centre, and vice versa, national resources distributed among the regions and localities.

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